Income poverty in 2004: A second engagement with the recent van der Berg *et al* figures

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ABSTRACT[1]

The present paper argues that the poverty headcounts for the years 2000 and 2004 of 18.5 and 15.4 million respectively, estimated by van der Berg *et al* (2005) are too low. It makes use of the income data in the Labour Force Surveys (LFSs) for September 2001 and September 2004, to construct alternative estimates. Before making the estimates, ways are sought to address the weaknesses in the data sets: missing incomes; implausible zero-incomes; under-reporting of income (and expenditure), and the poor quality of the social grant data in the surveys. The estimates suggest that the poverty headcount in 2004 was probably in the region of 18 million, having fallen from about 19.5 million in 2001. The 2004 findings offer support to earlier results (Meth, 2006a) which draw a similar conclusion, approaching the problem from the expenditure side.

Of the 18 million people below the poverty line in 2004, 14 million lived in workerless households (most containing working age people, but in which nobody had employment). These zero-income (from employment, that is) households survived on a mix of social grants and/or remittances. Among them were about 1.8 million people in households receiving no incomes at all in the survey reference period, subsisting, we know not how. The remaining four million people below the poverty line were located in households containing about 800 000 workers. Although the bulk of poverty is caused by unemployment, the problem of the working poor still looms fairly large.

Along with their finding of a substantial drop in the headcount, van der Berg *et al* report a large fall in the poverty gap in the period 2000-2004. The present paper also finds that the poverty gap fell, though not by as much as is claimed. Data availability limits the examination to the period 2001-2004. Minimal changes in the period 2000-2001 in the social grant system, in job creation and earnings growth make it unlikely that the fall in the poverty gap reported by van der Berg *et al* could have taken place

Expansion of the social grant system, the major cause of such poverty reduction as is to be observed from 2000 onwards, is not sufficient to bring about the decline in the headcount of three million, reported by van der Berg *et al*. Evidence on the only other sources of poverty reduction, (pro-poor) income (earnings) and employment growth, is considered. It is concluded that neither are sufficient to have caused much of a reduction in poverty.

Employment growth is particularly ineffective in this regard—it appears that there were large increases in the numbers of workers in the highest expenditure category, and falls in employment at the bottom end of the distribution. The upshot of this analysis is the conclusion that the fall in the headcount during the period 2000-2004 was more likely to have been 1.5 million rather than three million.

A set of recommendations is offered for changes to the Labour Force Surveys and General Household Surveys to enable them to make a better job of measuring poverty.

INTRODUCTION

Certain claims may, if asserted often enough and with sufficient confidence, come to be accepted as true. This is the more likely when the claims do not immediately call forth a credible challenge, a situation that can easily arise when it is difficult to verify the claims in question.[2] So it is that a set of poverty estimates made recently by Servaas van der Berg and his colleagues from the University of Stellenbosch appear to have been embraced, if not in the halls of academe, then at least in government. Using as one of their major sources, the All Media and Products Surveys (AMPS), a household survey conducted annually by the South African Advertising Research Foundation (SAARF), these authors conclude that the poverty headcount in South Africa fell from 18.5 million in 2000 to 15.4 million in 2004. The depth of poverty, as measured by the poverty gap ratio, and the severity of poverty, as measured by the squared poverty gap index, are also reported to have decreased over the period (van der Berg *et al*, 2005, p.17, Table 2).

After years of being on the defensive in the face of claims that both poverty and inequality have worsened, these findings are sweet music to government. Frequent use is now being made of them. In his Parliamentary Question session on March 30th this year, for example, President Mbeki was asked by Prince N E Zulu of the IFP:

> 'Whether the government is on course to halve poverty by 2015; if not, why not; if so, what are the relevant details?'

Citing the research done by van der Berg *et al* on income poverty, the President began thus:

> 'Let me start by saying yes, we are confident that we are on course to half (*sic*) poverty by 2015.'

After reciting the headcount figures above, he added that:

> 'The study also shows that per capita real incomes of individuals comprising the poorest two population quintiles rose by more than 30 percent during 2000-2004. Our pro-poor socio-economic policies are meeting with success.'

The reason for his optimistic assessment is clear: van der Berg and his colleagues have the poverty gap ratio falling from 0.413 to 0.332 in the space of just four years (2005:17). Extrapolating a performance like that into the future could see a halving of the poverty rate before the due date. To do so, however, is to ignore their explicit warning that the origin of poor people's rising income, social grants, will not continue to reduce poverty at the same rate in the future. Once full take-up of planned extensions to the social grant system is achieved (all eligible under-15 year old children receive the child support grant), the observed 'trend' in poverty reduction will come to an end.

Later in the year, Joel Netshitenzhe, head of the policy unit in the Presidency, made use of both the van der Berg *et al* results, and a paper by Bhorat *et al* (2006) on asset poverty, to argue that the suggestion in John Pilger's recently published book *Freedom Next Time*, that South Africa's anti-poverty policy is not all that it should be, is not based on facts. The article, run in the *Sunday Independent*, August 20 2006, appears under the banner 'Voters do not share Pilger's perception'. Underneath this is a strip that reads 'Journalist has distorted facts to suit his ideology and fails to acknowledge the immense changes that have taken place since 1994'. The newspaper would have done its readers (and itself) a service if it had distanced itself from what is merely Netshitenzhe's opinion, instead of possibly misleading them with lurid headlines. After all, some of what Netshitenzhe says in the article is also dubious.[3]

He repeats the van der Berg *et al* findings as though they were facts, rather than the tentative results of an innovative piece of research (artefacts).[4] In a similar vein, he mines Bhorat *et al* piece for the most spectacular sounding achievements in the asset provision field. He fails to mention their finding that asset poverty reduction appears to have been more rapid between 1993 and 1999 than it was between 1999 and 2004. Nor does he mention their conclusion that the relative headcount reduction in the bottom decile was much lower than that higher up the distribution (2006:33). Netshitenzhe also does not draw reader's attention to the continuing 'marginalisation of poor African women living in rural areas' where Bhorat *et al* discover the asset poverty headcount rates in 2004 to have been above those in 1993 (2006:31). Like the van der Berg *et al* work, that by Bhorat and his co-workers is a daring new departure. The jury is still out on the question of the validity of their findings. There is obviously a great deal at stake here. If policymakers use 'evidence' whose reliability is in doubt, if they use evidence selectively,

or if they do not pay sufficient attention to the caveats with which researchers surround themselves, the consequences (for the poor) could be unfortunate.

The object of the present paper is to offer a second challenge to the van der Berg *et al* findings, the first having been made in Meth (2006a), where I argued, using mainly the expenditure data in the LFS for September 2004, that the poverty headcount in 2004 was more likely to have been between 18-20 million. The present paper makes use of the September 2004 Labour Force Survey (LFS) as primary source (once more).[5] Section 2 of the present paper is given over to an examination of data problems. Four areas are considered: (i) the way in which missing income estimates have been treated, (ii) the plausibility of the zero-income estimates, (iii) the problem of under-reporting of income and expenditure, and (iv), the inadequacy of the data on social grants collected by the Labour Force Surveys. Section 3 presents the results for the year 2004, and attempts as well, to estimate poverty reduction in the period 2001-2004. Section 4 of the paper is given over to the beginnings of a critique of the van der Berg *et al* estimate of a reduction of three million in the poverty headcount between 2000 and 2004. Section 5 concludes the paper.

En route to reporting the findings, van der Berg *et al* undertake a critical review of the estimates of poverty and inequality made by researchers using the census and survey data produced mainly by Statistics South Africa (2005:6-9). Under-reporting of income and expenditure, implausible reports of zero incomes, and missing income estimates, the besetting weaknesses of official survey and census data, and the not wholly satisfactory means adopted to deal with these weaknesses are examined (pp.9-10). One understands the reluctance to use such flawed data. In the absence, however, of high quality data from surveys designed specifically to measure poverty, van der Berg *et al* are obliged to make do with whatever is available. That, inevitably, is also flawed. Like their Stats SA counterparts, income estimates in the AMPS surveys do not to capture all of the income reported in the national accounts. To compensate for this, van der Berg *et al* adjust incomes in such as way as to:

> '… arrive at estimates of the income distribution that maintain the household survey distribution information but accord with national accounts current household income magnitudes. In other words, we trust national accounts data for aggregate household income, while we trust

> survey data for the distribution of such income between households.' (van der Berg *et al*, 2005, p.11)[6]

They acknowledge the methodological criticisms made of such an approach. Much of this criticism refers to the weaknesses of the national accounts themselves. They note, for example, that national accounting data are:

> '… prone to non-sampling errors in the form of incompleteness or inconsistency, and methods of data collection are often changed arbitrarily. Furthermore, there is no transparency in the calculations used to estimate aggregates, and racial decompositions of totals are not provided …' (van der Berg *et al*, 2005, p.11)

Although the true extent to which Stats SA household surveys under-report expenditure (and income) cannot be ascertained, the detailed household information gathered in the surveys makes it possible to narrow down the likely extent of this source of error. Using the survey figures, one can determine the numbers of workers per household (or their absence, in the case of workerless households) and in so doing, estimate the corrections to their earnings implied by blanket adjustments that raise survey means to national accounts means. The result of this exercise is the suggestion that the adjustments to earned incomes down at the bottom end of the distribution necessary to replicate the van der Berg *et al* (2005) results are implausibly high (Meth, 2006a, pp.57ff). In effect, anyone who accepts the van der Berg *et al* results is telling survey respondents that their reported income or expenditure levels understate the 'true' figures by several hundred per cent.

What the van der Berg *et al* results offer is a weak set of numbers, benchmarked upon another, possibly slightly more reliable set. On this slender basis, the authors go out into the world with their results. These are being treated as though they were robust in places where this matters. Having been widely reported in the press, and on television and radio, they have made their way into government's most recent attempt at reporting on progress in the field of social policy. The work in question bears the title *A Nation In The Making: A Discussion Document On Macro-Social Trends*. It was produced by the Policy Co-ordination and Advisory Services in the Presidency (PCAS, 2006), and has, as one of its objectives, the shifting of the focus on macroeconomic performance to one that gives social indicators greater prominence. In pursuit of this aim, a vast quantity of new research is cited, alongside some that is not-so-new. Not only do the van der Berg *et al*

(2005) poverty headcount figures get a mention (PCAS, 2006, p.12), so too, does a far less estimable figure inspired by van der Berg's work on benefit incidence. The figure in question (generated by Presidency staff rather than by van der Berg) purports to measure the impact on inequality of government's programme of social spending. Here it is:

> 'The Gini coefficient, another widely used measure of inequality, was 0,59 in 2000 when social transfers were excluded. If these were included, it was 0,35.' (PCAS, 2006, p.14)

Reproduced from an earlier effort by the PCAS, the *Ten Year Review* (PCAS, 2003), the figure of 0.35 is, as I have argued elsewhere, meaningless (Meth, 2004). A request made to the Head of the PCAS, Joel Netshitenzhe,[7] to consider adding the necessary caveats to the assertion in the *Ten Year Review*, was ignored—it stands unaltered. If true, the two claims made by the Presidency, would point to significant progress in tackling poverty and inequality. Unfortunately, (especially for the poor) neither claim stands up to serious scrutiny. In addition to arguing that the Gini coefficient story is misleading, I have, as noted above, also attempted to show that the van der Berg *et al* (2005) poverty headcount figures are suspect (Meth, 2006a). The poverty headcount of 18-20 million presented in the latter paper was derived from the expenditure estimates in the September 2004 Labour Force Survey (LFS). The present paper corroborates that finding using the income data (rather than the expenditure data) from same survey. Adding the set of poverty estimates for the year 2001, as is done in the present paper,[8] makes it possible to begin mounting a challenge to the claim by van der Berg *et al* that the headcount fell by more than three million in the period 2000-2004.

'Bold' is not too strong a word to describe the claims made in the present paper. That being so, it is probably worth admitting that such knowledge about poverty as can be extracted from surveys in South Africa, any surveys, is fragile. It therefore behoves us all to be a little cautious about the ways in which we promote our views—it is almost certainly too early for any poverty researcher using existing national survey data to describe their findings as robust.

DATA PROBLEMS

The aim of this section of the paper is to address the problems that arise when using the LFS (and GHS) data for poverty analysis. Although hazards such as the under-reporting of income and expenditure may be most threatening when the explicit purpose is to measure poverty, some of the other difficulties discussed below affect users more generally.[9] As noted above, it is possible to use the Stats SA figures to address the poverty question from both the expenditure and the income side. In both applications, the surveys have to be pressed into a service for which they were not explicitly designed. That means that a variety of obstacles, of varying degrees of difficulty, have to be surmounted. Attacking the problem of poverty measurement from the income rather than the expenditure side (the former being, possibly, the more conventional approach) poses fewer problems. Certainly, the task of imputation is eased somewhat, when use is made of the income data as primary source of information.

No census or household survey can collect all of the information required to understand fully the social phenomena in which researchers are interested. Even if cost were no object, compromises in questionnaire length are usually necessary to reduce respondent burden to some tolerable minimum. When, as is the case here, the surveys are dragooned into performing tasks for which they were not intended,[10] ways to minimise the impact of their inevitable inadequacies must be found. Three of the four problems with which we are concerned here: missing income estimates; implausible zero-income estimates and under-reporting of income and expenditure, are common to many surveys. The fourth, the inadequacy of the data on social grants collected by the Labour Force Surveys (LFSs), is peculiar to that survey.

Dissatisfaction with the treatment of the problems of zero income estimates and of missing income estimates in existing poverty studies in South Africa was one of the motivating forces behind the van der Berg *et al* (2005) paper. These, and the difficulties of correcting for non-response, constitute some of the reasons why they '… question the recent poverty and inequality findings.' (2005:9). Presumably referring to the 1996 and 2001 population censuses, they cite research which showed that zero-income households made up 12.6 per cent of the total in 1996 and 23.2 per cent in 2001, while missing income values for one or more household members were recorded in 11.8 per cent of households in 1996 and in more than a quarter of

households in 2001 (van der Berg *et al*, 2005, p.9). Although neither problem occurs in such extreme form in either the LFSs or the GHSs, the extent to which they are present is such as to make it impossible to ignore them. Under-reporting of income and expenditure is also far from being negligible. Let us see, therefore, what has to be done.

Missing income estimates

Where individuals furnish category rather than point income estimates, it is necessary to assume point income estimates in order to produce household and per capita income figures. Rather obviously, the greater the proportion of the working population that gives point estimates, the smaller the amount of guesswork that has to be done, and the greater the likelihood of obtaining confirmation that assumptions made about means are reasonable. In the September 2004 LFS, among 25 562 respondents who reported that they were employed (Status1 = 1), 17 406 (68.1 per cent) gave point estimates of their incomes, while a further 6 427 (25.1 per cent) gave category estimates.[11]

Among the employed, only 1 734 (6.8 per cent) did not furnish adequate income data. Of these, 1 011 refused to answer the income question, while 666 replied that they were not able to answer (did not know). Income data for 56 respondents were 'missing', while three respondents gave income information but failed to provide a salary period. The task before us is that of reducing the number of missing income figures to an acceptable minimum.

Fortunately, since the LFSs and GHSs collect both income and expenditure data, incomes can be imputed from the latter. This means that estimates for a large proportion of the 'refuses' and 'don't knows' can be made. All but 285 of the 'refuses', and 104 of the 'don't knows', provided expenditure data. This means among the almost 26 thousand employed respondents, income data was unavailable for only 448 of them (1.8 per cent of the total). Of the 285 'refuses' for whom no expenditure is given, 247 refused to answer the expenditure question as well as the income question, while in 38 cases, the respondent did not know the answer. Among the latter group, 19 were white, and among the former, 176 were white. The 94 people who knew neither what their incomes were, nor what household expenditure was, were fairly evenly distributed divided by race group (29 African, 30 coloured and 31 white), which would mean, of course, that the latter two groups were over-represented. Nine of the ten respondents who did not know their income and who refused to answer the household expenditure question were white.

When figures are taken out for numbers of individuals in poverty, the respondents above turn up among those in the zero-income households. If we use race as a proxy for income, then it would seem highly likely, from the evidence presented above, that most of the 'refuses' are located in relatively well-off households (235 out of 389 'refuses' and 'don't knows' to both the income and expenditure questions were white). Expressed as a proportion of the total number of workers, those for whom an income could not be imputed with ease, amounted to 1.5 per cent, 0.9 per cent white and 0.6 per cent black (African, Coloured and Indian).[12] Excluding all of them from the poverty headcount appears to be the right thing to do, both because many of them will probably not be poor, and also because excluding those who may be poor will bias the results in a conservative direction (i.e., poverty will tend to be understated).

Imputation of incomes has been carried out by awarding the assumed mean household expenditure, mainly the category midpoint,[13] to individuals for whom this is possible (i.e., to those who do not fall into the double 'refuse' and/or 'don't know' category). It is done in such a way that when adjustments are made to compensate for under-reporting, the imputed incomes are adjusted upwards by the same percentage as all other incomes. This will distort the 'true' picture somewhat, because incomes would be distributed across a category, with some of the respondents above the assumed mean and the others below, rather than being concentrated on a single point. Counterbalancing any tendency to overstate poverty to which this procedure could give rise, is the assumption that total reported household expenditure is made possible because the income imputed to the individual concerned is the sole income source in the household concerned. This ignores the possibility that the income required to permit consumption in the household could have originated from a number of other sources - other income earners, migrant remittances or social grants, for example. It is notionally possible to check this, but the numbers of individuals in any particular cell will be so small as scarcely to justify such elaborate measures. On balance, proceeding in the manner outlined above is likely to be conservative, i.e., poverty is likely to be understated. So, although the method of imputing incomes from expenditure figures must be treated with circumspection (the more so as the latter are available only in category form, and for the household as a whole),[14] they are a great deal better than nothing, and possibly better than estimates that may be obtained from applying

sophisticated sequential multiple regression techniques to surveys which do not collect both income and expenditure data.[15]

Zero-income households

A substantial proportion of the South African population lives in workerless households. Most of these households contain persons of working age, none of whom has paid employment (unpaid workers in family businesses are also excluded). Although most of these households receive some income (it comes from a variety of sources, mainly social grants and migrant remittances), none of it is from earnings generated by household members. As a form of shorthand, such households are described as 'zero-income'. A minority among them actually do not report any income at all. An attempt is made below to estimate their number. Reasons are also suggested as to why the surveys might miss the possibly minuscule incomes on which they survive.

To start the proceedings, we steal a glance at some of the figures used in Section 4 of the present paper on the distribution of working age people by economic status by household income level in 2001 and 2004. In line with the definition of zero-income households offered above, the table which contains these numbers (Table 11) takes into account earned income only - migrant remittances and social grants are excluded. In 2001, there were 14.6 million in zero-income households. By 2004, their number had risen to 15.7 million.[16]

The figures suggest that most of the people whom the surveys locate in households in the zero-income category are there for good reason. If the surveys are doing their work properly, most of the people in the zero-income category should be in workerless households, most of them dependent on grants and remittances for their very existence. For all except a small minority, this condition appears to be met. In 2004, among the eight million 'not economically active' (according to the official definition) in zero income households, 95 per cent were in workerless households. For the two million people classified as officially unemployed, this increases slightly, to 96 per cent.[17] Although the absolute numbers of unemployed and not economically active are much smaller in the first non-zero income category,[18] they too, are located mainly in workerless households (the relevant figures are 96 and 97 per cent, respectively). Similar results hold for the year 2001.[19]

The total of 15.7 million people in zero-(earned) income households is whittled down to about 2.5 million people (or about 5.3 per cent of the total population) in 1.1 million households,[20] by the process of allocating migrant remittances and social grant income to the relevant households, and of removing from the zero-income households, those households that contain workers but for which no income data are available. To judge how many of these 2.5 million people can plausibly be claimed to be living in households in which income from all sources is zero, we place them under a socio-economic microscope. At the outset, it is necessary to be aware that neither the LFSs nor the GHSs capture data on income from all possible sources. The questionnaires are structured in such a way that anybody who is not classed as employed[21] is not asked the income (salary or pay) questions. The surveys could skip, for example, over those living on income from investment (not many of whom one would expect to find among the ranks of the poor).[22] In addition, depending on the relative sizes of incomes earned, those who receive income from several sources, e.g., from employment and investments, have to omit information on some income, because respondents are requested to furnish the information for their 'main' job (Question 4.15 in the September 2004 LFS and Question 2.8 in the 2004 GHS). Which income stream will find its way into the surveys will depend on the way in which respondents interpret the concept of 'main' job. There are various other omissions, such as maintenance payments made by divorced or separated 'breadwinners'.

Ignoring, as we must, these shortcomings of the survey data, we identify zero-income households by examining the data to see whether they receive earned incomes and/or transfer payments. If they receive neither, they end up in the zero-income category (these households, of course, as noted above, should contain no workers). Numbers of zero-income households and the individuals in them, by race, are shown in Table 1.

Using race once more as a crude proxy for income, we hypothesise that the whites (and possibly the Indians as well), could be in households that have failed to disclose investment income (which could be pensions or annuities). Africans, by contrast, are likely to be in very poor households, living off scraps (barely existing). To test this, we revert once more to the household expenditure figures.

Table 1 Zero-income workerless households, by race - 2004

	African	Coloured	Indian	White	Total
No of households	906 000	46 000	22 000	164 000	1 140 000
No of single-person households	471 000	11 000	8 000	66 000	555 000
No of individuals	1 975 000	126 000	54 000	291 000	2 450 000

Source: Own calculations using September 2004 LFS

Note: The small numbers of individuals who gave their race (population group) as 'Other' have been omitted.

Table 2 shows per capita monthly expenditure in 2004 prices. Boundaries in the lower expenditure categories are multiples of R309 per month. That amount corresponds roughly to the lower of the two poverty lines used by van der Berg *et al* (R250 per capita in 2000 prices). By this measure, everyone in the first category in Table 2 falls below the line. As may be seen, they number about 1.8 million among the 2.5 million people in workerless households that report zero-income, the vast majority of them Africans.

Table 2 Per capita expenditure in zero-income workerless households

R/month	African	Coloured	Indian	White	Total
0-309	1 690 000	90 000	10 000	27 000	1 816 000
309-618	148 000	26 000	11 000	20 000	204 000
618-1854	64 000	11 000	33 000	60 000	162 000
1854-4999	25 000	5 000	2 000	131 000	163 000
5000-9999	1 000	0	1 000	15 000	16 000
10 000+	60 000	5 000	2 000	37 000	103 000
Total	1 990 000	134 000	55 000	289 000	2 471 000

Source: Own calculations using September 2004 LFS

Note: The small numbers of individuals who gave their race (population group) as 'Other' have been omitted. Totals do not tally because of rounding.

The failure to capture income data other than that from work may possibly explain the presence of fairly large numbers of people with monthly per capita expenditure above the poverty line. The 37 000 whites in the R10 000 per month plus category could well be living off investment income. It is possibly a little less easy to accept that there may have been 60 000 Africans in the same expenditure category. If this is not merely a statistical artefact caused by playing with very small numbers (like the 16 000 people in

expenditure category R5000-9999?), it would be interesting to try and explain. There is certainly a case to be made for the careful analysis of the 400 000 people living on R618 per month or more, to determine the origins of their capacity to consume. The case is not one based on idle curiosity - a significant chunk of the 'missing' income in the surveys (the difference between survey income and national accounts income) could accrue to people at the upper end of the distribution in Table 2.

Membership of a workerless household which contains nobody old enough to qualify for a pension, and which does not have in it enough children young enough to qualify for the child support grant is an almost certain recipe for poverty. Table 3 gives the distribution of potential social grant recipients among the 2.5 million people in workerless households in Table 2. Among the 1.8 million people in the bottom expenditure category, there were only 287 000 children eligible for the child support grant, and 27 000 potential pensioners.

It is plausible to suggest that the few eligible people identified in Table 3 were unable to gain access, for one reason or another, to the social grants to which they would have been entitled. Although by 2004, the national Department of Social Development had made significant progress in its attempts to reach all eligible grant recipients, it is well known that take-up of the grants was then far from complete (Noble *et al*, 2005). Common reasons for non-receipt of social grants include such mundane but real obstacles as the lack of the necessary documents, or the wherewithal to make repeated trips to the nearest government office to complete the application process.

Table 3 Potential social grant recipients in zero-income households

Household expenditure (R/month)	Men older than 64 years	Women older than 59 years	Children younger than 12 years
R0-309	15 000	12 000	287 000
R309-618	6 000	9 000	22 000
R618-1854	13 000	21 000	14 000
R1854-4999	36 000	47 000	4 000
R5000-9999	6 000	2 000	2 000
R10000+	8 000	11 000	11 000
Total	80 000	99 000	336 000

Source: Own calculations using September 2004 LFS

On the face of it, it does not seem unreasonable to suggest that there could be 1.8 million people living in households that surveys such as the LFS and the GHS will describe as zero-income. Answering the question of how these people exist is not easy - the surveys eject respondents into employed status at the slightest provocation - people of working age are so classified if they performed an hour's work in the reference period, the past seven days before the interview. Work is defined to include a broad range of activities, ranging from 'proper' paid work, or the running of a business, through to unpaid assistance in a household business, to engaging in subsistence agricultural activities, or to major domestic 'do-it-yourself' construction projects on one's own plot.[23]

It may be that some of the zero-income households are an artefact caused by the use of a seven-day reference period for determining employment status in the Labour Force Surveys.[24] Poor people's engagement in work for which some remuneration, either in cash or kind, is forthcoming, may be sporadic. For many, this will be less the consequence of their willingness to work than it is of the availability of work of any sort. By limiting employment to work done in the previous seven days, the surveys may be creating a problem (that of a relatively large number of people with the apparent ability to survive on thin air), where one does not exist in reality (this need not mean that the people concerned are not very poor). Evidence that this may be so is suggested by the survey's inquiries into subsistence agricultural activities. Here, instead of the reference period being a mere seven days, it is a full calendar year (people are asked to name the months in which they performed agricultural work). Among the males of working age in zero-income workerless households, about 170 000 did some work of this nature. About 145 000 working age females did so as well. A change in the design of the questionnaire could elicit quite a different story about the survival strategies of the very poor.

Certain it is, that despite the frustrations that those in zero-income workerless households must experience on a regular basis, labour force attachment remains strong. Roughly one million or so people among the 1.8 million in the bottom expenditure group in Table 2 were potentially economically active. Of them, 470 000 were officially unemployed, while and 744 000 were unemployed according to the expanded definition. Of those who were not economically active, almost all (about 300 000) were at school. The picture before us is surely one of a relatively large group of people with a strong desire to work but whose access to work of any sort

may be so intermittent as to cause them to be classified as living in zero-income households, when the truth is that while still existing from hand-to-mouth, they do so on the basis of occasional work supplemented by whatever they can beg, borrow or, in some cases, steal (literally).

Administrative vs. household survey data on social grants

Most, though not all, of the poverty alleviation that took place in the period 2000-2004 occurred as a result of the consolidation and extension of a social grant system, which by developing country standards, was already quite large in the year 2000 (Seekings, 2002). Since it is the intention to estimate poverty levels from household survey data, it is necessary to compare the numbers of grants thrown up by the surveys with those yielded by the administrative records.

Table 4 shows changes in the numbers of beneficiaries from social grants of different types. The big changes are in the disability grants, which double in number over the period, and, of course, in child support grants, which see a more than twelve-fold increase. Foster care grants also increase in number, but are dwarfed by the absolute increase in the number of old age pensions, modest though it is in relative terms.

Table 4 Numbers of beneficiaries of various social grants

	2000	2001	2002	2003	2004
Old age	1 860 710	1 877 538	1 903 042	2 009 419	2 060 421
War veterans	7 554	6 175	5 266	4 594	3 961
Disability	612 614	627 481	694 262	953 965	1 270 964
Grant-in-aid	8 748	9 489	10 332	12 787	18 170
Foster care	79 937	85 910	95 216	138 763	200 340
Care dependency	24 438	28 897	34 978	58 140	77 934
Child support	352 617	974 724	1 907 774	2 630 826	4 309 772
Total	2 946 618	3 610 214	4 650 870	5 808 494	7 941 562

Source: National Treasury, 2004, p.74.

As noted in the introduction, the September 2001 and 2004 LFSs constitute the primary data source for the poverty estimates in the present paper. It is their performance as gatherers of information that needs to be assessed. First choice as an instrument for measuring poverty should be the GHSs. Properly designed and administered, they could provide valuable information on poverty. They are, however, deficient in several respects. One of the most important of these is the failure to collect data on migrant remittances.[25] Since the latter are an important source of income, especially in households

that are otherwise workerless (i.e., they contain working age people, none of whom is employed), it is necessary to use the LFS rather than the GHS when attempting to estimate poverty levels.

Collecting information on social grants is (or rather was) not one of the strong points of the LFSs.[26] The GHS is potentially capable of identifying the individual recipient of each social grant, whereas the LFSs are only able to report that the household received a social grant of one sort or another. The LFSs do not say how many such grants are received. This is because of the way the questions are asked in the respective surveys. The performance of the two surveys in capturing information on the major grants is shown in Table 5.[27] The results presented are those for the 2004 GHS, and the LFSs conducted in September 2001 and 2004. The GHS results are there because of their apparently superior performance in collecting information on social grants. Although the wording of the question about the receipt of social grants (Question 1.50) is slightly ambiguous, the 2004 GHS asks it in such a manner as to make it possible to identify individual recipients within households.[28]

Ideally, the results for the earlier year should be those for the year 2000 (one of the two earlier years for which van der Berg *et al* estimate poverty levels). The September 2000 LFS, however, contains no household expenditure estimates, making imputation of incomes in the manner done below, impossible. It is necessary, therefore, to use the 2001 figures instead. Unfortunately, there are no GHS figures available to use as adjusters and comparators for the 2001 LFS social grant results. The first GHS was conducted in 2002. Rather than asking the question on social grants as is done in the 2004 GHS, the 2002 GHS is like the LFSs, in that it asks only if any member of the household received any of the 'following Welfare grants' (Question 4.43). If the fact that the first GHS results are a year later than the 2001 LFS figures did not knock them out of the competition, then the fact that using them would necessitate making the kinds of awkward assumptions that we have to make in order to make use of the LFS figures on social grants, certainly would. No attempt is made, therefore, to present any counterpoint figures for the year 2001.

Table 5 Nos. of social grant beneficiaries in the 2004 GHS and 2001 and 2004 LFSs

	Monthly household income from employment						
2004 GHS	Zero	R0-309	R309-927	R927-2163	R2163-4999	R5000+	Total
Child Support Grants	2 166 000	85 000	342 000	664 000	644 000	480 000	4 382 000
Old Age Pensions	1 684 000	33 000	109 000	201 000	213 000	281 000	2 516 000
Disability grants	682 000	11 000	51 000	94 000	134 000	123 000	1 087 000
Foster Care Grants	57 000	2 000	2 000	6 000	13 000	16 000	93 000
2004 LFS	Zero	R0-309	R309-927	R927-2163	R2163-4999	R5000+	Total
No of households reporting receipt of a social grant							
Child Support Grants	1 263 000	64 000	230 000	462 000	526 000	332 000	2 875 000
Old Age Pensions	1 425 000	25 000	93 000	197 000	189 000	250 000	2 175 000
Disability grants	523 000	10 000	47 000	84 000	113 000	123 000	894 000
Foster Care Grants	14 000	0	3 000	6 000	4 000	12 000	35 000
Estimated number of child support grants							
Child Support Grants	2 483 000	118 000	448 000	873 000	949 000	620 000	5 488 000
2001 LFS	Zero	R0-264	R264-792	R792-1848	R1848-4999	R5000+	Total
No of households reporting receipt of a social grant							
Child Support Grants	264 000	18 000	66 000	103 000	102 000	60 000	612 000
Old Age Pensions	1 250 000	34 000	98 000	190 000	213 000	242 000	2 021 000
Disability grants	231 000	7 000	31 000	55 000	68 000	64 000	453 000
Foster Care Grants	13 000	1 000	2 000	3 000	4 000	7 000	26 000
Estimated number of child support grants							
Child Support Grants	426 000	26 000	113 000	163 000	166 000	82 000	972 000

Source: Own calculations using September 2001 and 2004 LFS and 2004 GHS data.

Note: The under-reporting error for income is assumed to be 100 per cent. Income is from employment only.

As may be seen in the table, the GHS estimates of the numbers of children in respect of whom a child support grant was made conform closely to the administrative estimates set out in Table 4.[29] If the GHS figures are reliable, then the presence of so many grant recipients (about 500 000) in the last income category in the table (the R5000-9999 and R10 000 plus categories consolidates), may be telling us an interesting story about people collecting grants to which they are not entitled. Old age pensions are well over the administrative figures (by about 450 000); disability grants are down by almost 300 000, while foster care grants are out by roughly 40 000. It is not obvious why pension recipients in the GHS results in Table 5 should outnumber those in the administrative data (Table 4) by so many. Question 1.50 in the 2004 GHS asks 'Does …. receive any of the following Welfare grants?', then lists 'Old age pension', 'Disability grant', and so on. There should be no confusion of this with private pensions. One suspects that there should not be so many households in the monthly expenditure categories above R2163 (in 2004) and R1848 (in 2001) reporting receipt of the state pension. This could account for about two-thirds of the excess. An error of

this sort would have a fairly hefty impact on the distribution of income. If we were attempting to measure inequality, its effect would have to be examined. Since we are not, it can safely be ignored.

The second and third panels of Table 5 are split into two. The first part of each gives the number of households reporting receipt of one or more social grants. The second part gives an estimate of the number of children in respect of whom a child support grant is made, using a technique described below. Of the four grants, old age pensions; foster care grants; child support grants, and disability grants, it is the latter that causes the most trouble. Let us deal with them in the order listed here.

None of the surveys performs very well in terms of capturing the foster care grants (the LFSs being much weaker than the GHS). This is probably because the number of grants the surveys are looking for is relatively small (the needle-in-a-haystack problem).[30] Since these grants are so few in number (relative, say to pensions or disability grants), they are merely reported as they pop out of the surveys. In the discussion below on the capacity of the various grants to lift households and individuals out of poverty, the effect of ignoring the difference between the survey and administrative data will be seen to be trivial.

The LFSs appear not to perform too badly at capturing pensions. Both the 2001 and the 2004 LFSs have more households reporting receipt of at least one pension than the numbers recorded in the administrative data. For both years, the distributions look plausible. We would expect to find large numbers of pensions in zero-income households; none, or very few in the income category R0-309; a generous splattering in the classes immediately above this, and with relatively few in the income category R5000 per month plus. This is more or less what we find when we look at the Table 5 results. The large numbers of pensions detected by the GHS in income categories R2163-4999 and R5000 plus per month (644 000 and 480 000) dwindle to the more plausible figures of 189 000 and 250 000 respectively. The Table 5 pension total exceeds its Table 4 counterpart by about 100 000. Whether or not this may be ignored depends on the actual distribution of pensions. If the Table 5 distribution is roughly correct, and the extra 100 000 are located in the income category R5000 plus, their presence will have no effect on the poverty headcount. If they are located lower down, including them in the calculus will have the effect of overstating poverty reduction. On these

grounds, it has been decided not to make any compensating adjustment. Poverty may be (slightly) understated as a result.

Combining one of the eligibility criteria for receipt of a child support grant with a report of a household having received at least one grant, makes it possible to guesstimate the numbers of grants made. The procedure gives one grant to a household if it reported receipt of the grant and contained a child younger than 12 years of age in 2004 (or seven years of age in 2001); two grants if the household contained two such children, and so on, up to four children. Doing so generated 5.5 million child support grants, as opposed to the 4.7 million reported by the administrative records in September 2004. The same approach on the September 2001 figures, apparently worked quite well. The 2004 survey over-estimate will obviously cause the number of households whose poverty levels are reduced to be overstated. A few ways of dealing with this problem, all unsatisfactory in varying degrees, exist. The method chosen scales the value of benefits paid in respect of each child by the ratio of the number of grants detected respectively by the LFS and the administrative records. Although this may distort the distributional impact of the grant, it at least distributes the total amount of money correctly. If the GHS distributions are approximately correct, then the technique, as a rough and ready method of allocating grants, probably does not perform too badly. This is because the proportional distributions of grants in the Sept 2004 LFS and the 2004 GHS are roughly the same. So much for the child support grants.

As far as numbers of grants made are concerned, the disability grant coverage in the GHS is not very good (1.08 million in the latter vs. 1.36 million in the administrative statistics). The LFS figure (a little short of 900 000 households reporting receipt of at least one grant) is even less satisfactory. Part of the shortfall in the LFS estimates of the number of disability grants can be recovered (but very crudely) by multiplying the LFS number by the number of grants per household, estimated from the GHS. Such a step would take us to 1.02 million. Apart from the distortions to which doing this will give rise, the adjusted figure is still quite a long way from the administrative number (1.36 million).

Problems with the raw numbers of disability grants themselves are by no means the end of the story - in Meth (2006a), I argued that it was inappropriate to assume that disability grants were capable of raising households out of poverty simply because the size of the grant is relatively

large (R740 per month in 2004 prices). While it is highly likely that the benefit dilution associated with the grant alleviates poverty in some households,[31] none of the studies that have looked at disability (EPRI, 2001; EPRI, 2004; Dube, 2005; Nattrass, 2006)[32] provides a clue as to the extent to which the grant is capable of meeting the special needs of many of the disabled. That being so, it is impossible to estimate the impact of the grant on the poverty headcount ratio.

Given the substantial increase in the numbers claiming disability grants in recent times, government has attempted to sponsor research into the perverse incentive effects of the grant. Their efforts in this regard have not been crowned with great success. In a context of mass structural unemployment, one in which there is effectively no social protection for those in the age bracket of 15-60 (the women) or 15-65 (the men), the grant will obviously act as a magnet. Horror stories of HIV-positive people manipulating their CD4 counts, and tuberculosis sufferers stopping treatment in mid-course, in order to qualify for the benefit abound. A pre-occupation with this problem seems to have eclipsed the equally interesting, if not attention-grabbing topic of the adequacy of the grant in meeting the highly varied needs of those classified as disabled.

There are two pieces of work that point the way to the kind of work that has to be done. One that appeared recently unfortunately used a tiny sample, and is restricted to just one area. The findings, even though they are not representative, are of great interest. The study, which '… sought to assess the unmet rehabilitation, education and welfare needs of disabled children living in a peri-urban township' reported that:

> 'Few disabled children attended pre-school (35 percent) or school (44 percent). Only a quarter (26 percent) of children in need of rehabilitation received such services. Children with motor impairments were more likely to receive rehabilitation than those with intellectual impairment (44 percent vs. 8 percent, $P < 0.0001$). Of the 233 assistive devices required, only 64 (28 percent) had been issued. Less than half (45 percent) of the children entitled to a social assistance grant were receiving it. Lack of money, limited awareness about available services, and bureaucratic obstacles were the main reasons offered by caregivers for the low utilisation of available services and resources.' (Saloojee *et al*, 2006)

The authors claim that there are more than a million disabled children in the country. Glancing back at Table 4, we note that only 78 000 care dependency grants (grant paid to the care-givers of disabled children) were made in 2004. Even if their estimate is out by a factor of five, there is clearly a huge unmet need. The question before us (as ever) is: to what extent are the needs of those who actually receive the grant, met? The difficulties are hinted at in the passage above, but that is all.

The other piece of work is Philpott's *Budgeting for children with disabilities in South Africa* (2004). A compendious and immensely compassionate study, it is replete with references to the need for more and better information on the impact of policy on children's welfare. In a qualitative section of the work, filled to overflowing with heartrending stories, her informants describe the difficulties of gaining access to grants and refer as well to the benefit dilution that occurs as grants are used to supplement family income (2004:104). Unfortunately the work cannot answer the question posed here, namely, to what extent does the disability grant (or, in the case of disabled children, the Care Dependency Grant) meet the special needs of the disabled. Incidentally, Philpott cites a report which refers to the half a million disabled children in South Africa (2004:6)

Another chink in the wall obscuring the reality of making ends meet on a disability grant is provided by Simchowitz' report that in the Western Cape, in the absence of agreed criteria, assessment panels were awarding grants on social grounds (2004:4-5). This means, that in practice, for many disabled, the grants were functioning as unemployment benefits. How widespread this was, cannot be determined. The disability grant is means-tested, but as Simchowitz points out, allowable income and asset levels are quite generous.[33] According to the 2004 GHS, almost 63 per cent of beneficiaries were in the zero income category. If this is a reflection of the true distribution of claimants, then all it requires for the grant not to lift households out of poverty, is that some substantial proportion of the beneficiaries have special needs that cannot be met from the grant.

For want of a better reason for proceeding in any other way, the approach adopted for dealing with disability grants makes two estimates of the poverty-reducing impact of the grant that allow (arbitrarily) for some part of the special needs of the disabled to be taken into account. In other words, it is assumed that the grant's ability to reduce poverty is reduced because the greater needs of the disabled raise their effective poverty line above R309

per capita (in 2004 prices). The first set of estimates are described (somewhat misleadingly) as 'full value' benefits to distinguish them from the second set, which assumes that the reduced effectiveness of the grants is more extreme.

The 'Full value' benefits in 2004 (as they are described in Table 6 below) are obtained by scaling the value of the grant by the ratio of the number of grants detected by the GHS (1.087 million) to the number of households in the LFS reporting receipt of a grant (0.894 million). The value of the grant increases by this method from R740 to R900. Pumping up the grant up by the ratio of the number of grants detected by the administrative records (1.36 million) to the LFS number, would yield an uncomfortably large amount going into the households listed as receiving a grant. Since the distribution of recipients missing from the LFS is unknown, it seems inappropriate to attempt to guess at it. The 'full value' assumption therefore is not full value at all, but rather is an assumption that makes an arbitrary allowance for the special needs of the disabled.

The 'reduced effectiveness' assumptions take the process of allowing for some part of the special needs of the disabled still further (arbitrarily, once more). This time, the benefit is scaled by a factor derived by distributing the equivalent of half of the value of the total sum that would have gone to the 1.36 million recipients, to the 900 000 households identified by the LFS as receiving at least one disability grant. This is referred to (in Table 6 below) as the 'Half value' disability grant option (it was worth R562 per month in 2004). Similar procedures are used for the 2001 figures.

Income and expenditure under-reporting

Rather obviously, if the income estimates in a survey are going to be used as basis for poverty (and inequality) measurement, and those estimates under-report income, then the presence of under-reporting errors will distort the results. The extent (and distribution) of the distortions will be determined by the relative sizes and the distribution of the errors. Although there are suspicions (probably well-founded) that certain groups will have a greater propensity to under-report income (and expenditure) than others, it is well-nigh impossible to discover the magnitude of the errors.[34] Reflecting on this issue, Ravallion (2000:3251), observes that:

> 'It is generally thought that conventional household surveys are not very accurate in measuring the incomes and consumptions (*sic*) of the

relatively rich. Unsurprisingly, this is not something about which there is much evidence. However, we can be reasonably confident that there is non-compliance (people refusing to participate in the survey) and probably some underreporting amongst those who do participate. This is unlikely to be confined solely to the rich – it is probably found at all levels of living. On a priori grounds it does not seem plausible, however, that this problem would be just as great for the poor as the nonpoor. Some of the poor might underreport or refuse to participate, but by and large they would not have any reason to do so, and there may well be just as much overestimation of their incomes and expenditures. And the poor tend to consume things that are less difficult to measure than the things rich people consume.'

One possibility is thus that under-reporting rises monotonically with income.[35] A different version of the story about the propensity to under-report could also be concocted, one which has those at the two extremes of the distribution as being more likely to under-report income. This would have as a corollary, the proposition that those in the middle of the distribution are likely to be in steady employment in single jobs and hence, to be easily capable of reporting income from one source that does not vary greatly from month to month, quite accurately. Plotting income (or expenditure) against the degree of under-reporting would generate an inverted U-shape. There could be a variety of reasons why those at the extremes of the distribution may under-report. Under-reporting could be intentional or unintentional. The latter could result if the person providing information is not very well informed as regards several aspects of characteristics of household members. 'Proxy' respondents in rich and poor households alike may not be in a position to answer income questions accurately because respondents may not want other household members to know details of the earnings.[36] As far as intentional under-reporting is concerned, respondents may also, despite assurances to the contrary, believe that information from the surveys could find its way into the hands of others, say for example, the tax authorities.[37]

One way around the problem of under-reporting of income or expenditure, it is to raise survey incomes (or expenditure levels) until total income (expenditure) is equal to the corresponding national accounts totals. This, in essence, is the approach adopted by van der Berg *et al* (2005).

Not all researchers trust this method of compensating for under-reporting error. The article from which the long passage cited immediately above is drawn,[38] addresses the question of the strong divergence between estimates of consumption growth made variously from data in the National Sample Surveys (NSS) and National Accounts (NAS) in India, with the latter outstripping the former (Ravallion, 2000, p.3245).[39] Commenting on the reliability of the national accounts figures, he notes that:

> 'Given the way consumption is measured in the NAS, one can hardly be confident that it gives an accurate measure of either the level of average household consumption or its rate of growth.'[40] (2000:3251)

He comments as well that '[T]he assumptions made about distribution by advocates of NAS anchoring are also questionable.' (2000:3251). Similar problems are likely to be present in other countries.

Also notable among those who cast doubt upon the wisdom of using national accounts to measure poverty, either alone or in tandem with survey distributions, is Angus Deaton (2003). According to him, it is likely that surveys understate consumption (and income) growth, while national accounts overstate it. Although he notes that:

> '… there can be no general presumption in favor of one or other of the surveys and the national accounts.' (2003:17).

he is quite emphatic about the relative merits of surveys and the national accounts as the basis of poverty measures:

> 'there is,' he says 'essentially no choice but to use the surveys, because only the surveys provide direct measures of the living standards of the poor.'[41] (Deaton, 2003, p.37)

Yet the habit of deferring to these accounts as arbiter of what constitutes survey under-reporting of income or expenditure (i.e., of 'anchoring' poverty estimates in the national accounts), has gained acceptance in some quarters, despite Deaton's warning that:

> '… there is need for much caution … mechanical use of NAS means, combined with survey-based estimates of distribution around the mean,

will certainly give the (*sic*) poor measures of poverty...' (Deaton, 2003, p.34)

Suspect though the approach may be, it is necessary to push the Stats SA survey income data into equality (or near equality) with the national accounts figures, to see how the resulting poverty levels compare with those reported by van der Berg *et al*. The difficulty lies in guessing what the relative sizes of the errors should be at different points in the distribution. In the absence of any firm guidance on how to proceed, the procedure adopted in the present paper applies an equal percentage 'correction' to all earned income estimates.[42] An assumed error of 100 per cent in the value of an income estimate, means that actual income is twice as high as reported income, while a 200 per cent error implies that actual income was thrice reported income; i.e., if Y_r = reported income, Y_a = actual income, and error = e per cent, then $Y_a = Y_r + (Y_r * e/100)$.[43]

If under-reporting rises monotonically with income, or if the distribution of under-reporting errors is U-shaped, and either form of under-reporting occurs on a significant scale, uniform upward adjustment of the type described above, would be rendered highly problematic. Although the mechanics of modelling the effects of varying patterns of under-reporting are relatively simple, the difficulties surrounding the choice of combinations of assumptions, are formidable.[44] It could be argued that these difficulties notwithstanding, sensitivity tests, even if conducted using numbers chosen on a purely speculative basis, might yield useful insights. Although that may well be true, the range of possible scenarios is huge. With no mechanism to guide selection among alternatives, we would flounder in a sea of simulations—for better or for worse, it has been decided to stick with the assumption of uniform error in the simulations discussed in the next section of the paper.

MEASURING POVERTY IN 2004

Attempting to measure poverty with the aid of the household surveys conducted by Statistics South Africa presents the researcher with some, but not all of the problems faced by the Stellenbosch team. Approaching the task from the expenditure side, as I did in Meth (2006a), entailed, amongst other things, estimating means for the bottom expenditure category (R0-400 per month) and for the open category (R10 000 plus) per month. Means for the

categories in between emerged from the assumed (linear) distribution of households and individuals within them. To assist in making a dent in the almost intractable problem of estimating the extent of expenditure under-reporting, the presence of income estimates, independently collected in both the Labour Force and the General Household Surveys (LFSs and GHSs), was of some comfort. Accordingly, in Meth (2006a) I used the income estimates to impute expenditure categories in cases where the income estimate exceeded the upper bound of the reported household monthly expenditure category.

Although means have had to be assumed for some of the income recipients, doing so has far less of the feel about it, of having to grope in the dark. This is because almost 70 per cent of those earning a wage or salary gave point estimates of their earnings. With means estimated from these figures to hand, it is possible to feel far more confident about the means assumed for those who only furnished category (income band) estimates. In addition, since independently gathered estimates of expenditure are available, it is possible, as demonstrated in the previous section of the paper, to reduce missing income estimates to an absolute minimum.

Even so, a number of imponderables remain - three in particular deserve our attention here. The first concerns the roughly 420 000 individuals, some 250 000 of them workers for whom no income estimates can be made, who have to be left out of significant parts of the analysis. Because their place in the distribution of income cannot be determined, these people are omitted from the estimates of the poverty gap ratio. Omitted as well, are the 600 000 plus people in Table 2 whose monthly per capita expenditure locates them outside of the ranks of the poor. Both groups find their way into the denominator of the headcount ratio estimates. Apart from concluding that they are unlikely to be poor, it is difficult to locate them with greater precision in the distribution of income.

The second area of concern is with the fact that information on migrants has been collected in a manner that makes it difficult to add remittances to other household income.[45] A related additional problem that presents itself is the question of the extent to which survey respondents under-report the value of migrant remittances. The migrant labour system is still quite extensive. Although only a modest percentage of workerless households receive remittances from migrants, there are so many workerless households that remittances form an important part of the income of poor households. The

poverty estimates below therefore illustrate the effect of varying the assumptions about the value of remittances.

The third area of concern is with the magnitude of the required adjustment to incomes reported in the LFS. If it is true that they do not have to be raised to equality with the national accounts income estimates, then how does one determine the level to which they should be raised?

Where possible, Table 6 presents two of the (three) standard Foster-Greer and Thorbecke measures, the headcount ratios and poverty gap ratios for the year 2004. Also presented, because of their greater comprehensibility to non-economists, are the poverty headcounts (the actual number of people below the poverty line), and what I call the politician's poverty gap—the size of the annual income transfer (in 2004 prices) required to raise the consumption of all of the poor to the level of the poverty line. Although the data will permit it, no estimates of the squared poverty gap ratio (P_2) have been made—I have yet to meet an economist who can explain to a layman what that particular indicator of the severity of poverty means. The poverty line that generates the Table 6 results is the R250 per capita per month (in 2000 prices) line used by van der Berg *et al* (2005).[46]

Unknowns and imponderables of the types discussed above, raise the number of permutations of possible results to some quite high total. The columns in Table 6 offer four sets of adjustments to compensate for under-reporting of income, while the rows contain four 'packages' of assumptions about two components of unearned income (remittances and disability grants). The task before us is one of narrowing the possible set of outcomes to manageable proportions. Arguments about how to assess the poverty-alleviating impact of disability grants have been aired at length. Some time has also been devoted to a discussion of the problems involved in estimating migrant remittances, let alone guessing at the extent to which these have been under-reported. In the first panel, the 'half-value' disability grant assumption is combined with the assumption that under-reporting of migrant remittances is zero. In the next panel migrant remittances are assumed to be under-reported by the same percentage as all other income. In the third panel, the 'full value' disability grant assumption is married to the assumption that under-reporting of migrant remittances is zero. The fourth and last panel unites the 'full value' disability grant assumption with the assumption that migrant remittances are under-reported by the same percentage as all other income.

The ‘full value’ assumption, as described in the section above on the inadequacies of the LFSs as collectors of information on social grants, is not quite the full value of grants reported in the administrative data. If a way could be found to distribute the missing grants among the population, another couple of hundred thousand individuals might be ‘rescued’ from poverty. It remains debatable, however, whether the full value of the disability grants can be applied to the reduction of the poverty headcount, although it certainly would contribute to a reduction of the poverty gap. Whatever the case, as may be seen in the table, poverty headcounts in the region where the ‘true’ estimate might lie (somewhere between the 75 – 100 per cent under-reporting assumptions) have a range of over two million. Estimates, it would appear, are quite sensitive to changes in the assumption made about both migrant remittance under-reporting, and the efficacy of disability grants.

Table 6 Poverty estimates, 2004 - Income from all sources

Error level	Zero	75%	100%	200%
1. Half-value disability grant, Zero under-reporting of remittances				
Headcount ratio (P_0)	0.507	0.423	0.395	0.365
Poverty gap ratio (P_1)	0.286	0.245	0.237	0.216
Headcount	23 200 000	19 300 000	18 400 000	16 700 000
Poverty gap Rbn	45.5	38.5	37.1	33.4
2. Half-value disability grant, Remittance under-reporting same as income				
Headcount ratio (P_0)	-	0.408	0.376	0.358
Poverty gap ratio (P_1)	-	0.235	0.224	0.209
Headcount	-	18 600 000	17 600 000	16 400 000
Poverty gap Rbn	-	36.7	34.9	32.2
3. Full-value disability grant, Zero under-reporting of remittances				
Headcount ratio (P_0)	0.495	0.413	0.386	0.332
Poverty gap ratio (P_1)	0.277	0.237	0.229	0.197
Headcount	22 600 000	18 900 000	18 000 000	15 200 000
Poverty gap Rbn	44.0	37.0	35.7	30.1
4. Full-value disability grant, Remittance under-reporting same as income				
Headcount ratio (P_0)	-	0.399	0.367	0.325
Poverty gap ratio (P_1)	-	0.227	0.216	0.191
Headcount	-	18 200 000	17 100 000	14 900 000
Poverty gap Rbn	-	35.3	33.4	29.0

Note: ‘All sources’ means all income from employment, migrant remittances and all social grants
Source: Own calculations using September 2004 LFS data set

As far as under-reporting of income from employment is concerned, the lack of empirical evidence on the phenomenon, obliges us to make use of a set of (not-quite-arbitrary) assumed errors. These are applied to earned income (income from employment) at four levels. Poverty estimates are then made, taking into account all earnings from employment and all migrant remittances, plus all social grants (but, in varying 'packages'). The first assumption is that there are no under-reporting errors; the second that incomes are under-reported by 75 per cent (earned income is multiplied by 1.75); the third that they are under-reported by 100 per cent (earned income is doubled), and the fourth that they are under-reported by 200 per cent (earned income is trebled).

Survey and national accounts income estimates are apparently pushed into approximate equality by assuming a 100 per cent error. On the basis of assumption package 4 in Table 6 (full value disability grant, remittance under-reporting same as income under-reporting), the estimated incomes from employment equal R1.005 billion, as opposed to a national accounts estimate of R1.096 billion, roughly 60 per cent of which is remuneration. This adjustment, however, ignores an unreported portion of investment incomes of unknown magnitude.[47] As noted above, the way the income questions on income in the LFS an GHS are asked, makes it certain that the income of those who live entirely on investment income and do not regard themselves as 'working' in the conventional sense, or who as recipients of annuities or private pensions, do not work, will not be captured by the surveys. In addition, the 'main job' qualification in the income question means that recipients of income from 'work' as conventionally understood, and from investment, must omit some portion of one or the other from their report of income earned. These omissions could be substantial. To get around this problem it is going to be necessary to guess at the proportion omitted. Half seems too much, and a quarter may be too little. If net operating surplus (or income from property) amounts to about 40 per cent of all income, let us settle (arbitrarily) on 15 per cent of total income (midway between half, 20 per cent of the total, and a quarter, ten per cent of the total).

In terms of this assumption, a 100 per adjustment to reported survey income would take the survey income total well over the top of the national accounts income total. The 75 per cent under-reporting error assumption, without any adjustment for missing investment income, raises income from employment to 80 per cent of the national accounts figure. Adding 15 per cent onto this would bring us close to the national accounts total. To make the full

adjustment would thus require a correction a little larger than 75 per cent to the survey incomes. Since, as we have seen, national accounts income estimates are not held in high regard by some of the most eminent practitioners (they probably overstate income growth), the 75 per cent correction in Table 6 may be somewhere near the mark. That means that we are probably looking at a poverty headcount in the region of 18-19 million. Closer than that, we cannot approach.

Suppose, for a moment, that the national accounts total income is the correct level. There are limits to the effect that adjusting earned incomes can have. Pushing them upwards still further to compensate for alleged under-reporting among the 17.1 million people below the poverty line that the fourth package in Table 6 generates, would have a negligible effect. This is because among those in poverty there are a mere 775 000 employed. Between them, all of the folk below the poverty line receive income totalling R17.7 billion, a whisper less than 1.8 per cent of total income from all employment. Even if their earned incomes, already doubled (in the 100 per cent error column) were doubled once more, the additional income would still not fill the gap. An assumption, on the part of a researcher, that survey incomes need to be adjusted upwards in such a drastic manner is tantamount to informing respondents that they have under-reported income by several hundred per cent. It is surely only the remoteness of the researcher from the respondent that makes such arrogant behaviour possible. In short, the likelihood is that the headcount is somewhere in the region of 18-19 million. This conclusion is in line, as noted above, with the finding (approaching the problem from the expenditure side) that the 2004 headcount was probably in the region of 18-20 million (Meth, 2006a).

To replicate the van der Berg *et al* headcount, using the LFS data, it is necessary to treble all reported incomes (the 200 per cent under-reporting error assumptions). Even this, however, does not get the poverty gap ratio down to their figures ($P_0 = 0.332$ and $P_1 = 0.146$, 2005, van der Berg *et al*, 2005, Table 2, p.17). The headcount ratio for package 3 in Table 6 (headcount = 15.2 million) falls to 0.332, but the poverty gap ratio sticks at 0.197. This is not far from their 1993 estimate (0.200) and the 2000 figure (0.205).

The impact of social grants: 2004

Estimating the impact of social grants on individual poverty is not a straightforward matter. As noted above, for example, it cannot be taken for

granted that the whole of the disability grant goes towards poverty alleviation. Similarly, it is well known that the claim sometimes made that poverty among the elderly has virtually been eliminated is untrue, simply because pensions are used (diluted) to support so many people. The same argument applies to the child support grant. Fascinating though these topics are, we will not pursue them here, other than to remark that detailed work in these areas is urgently required. For the purposes of the present paper, we sidestep these important issues to focus on the larger question of the impact of the social grant system as a whole, for it is there that van der Berg *et al* locate the major cause of the reduction in the poverty headcount that they report.

The numbers of households and individuals lifted above the poverty line by social grants are evidently a function of the circumstances of the households into which the grants flow. Among the factors that determine whether or not individuals in particular households see mean incomes raised above the poverty line, are household size and composition; the economic status of the individuals within the households; household mean income; the distribution of income within the household (individual poverty gaps); the extent of benefit dilution; the contents of the grant package received by the household, and, in the case of the disabled, the extent of special needs.

Table 7 charts the impact of the social grant system on poverty in 2004, gliding over most of the difficulties listed above. The old age pension, as one would expect, is the 'big hitter'. By virtue of its sheer size, it raises many more people out of poverty than do the much smaller, but more widely distributed child support grants.[48] The assumptions deployed to arrive at the results for disability grants in Table 7 are those in Panel 4 of Table 6 (Full-value disability grant, Remittance under-reporting same as income). Using these assumptions, the disability grants have roughly the same impact as the child support grants, an unsurprising conclusion, given the numbers of grants distributed, and their relative magnitudes. In line with our assumption that the under-reporting error probably lies between 75-100 per cent, Table 7 dispenses with the results for the zero-error and 200 per cent error estimates.[49]

Table 7 Nos. of households & individuals lifted out of poverty by social grants, 2004

	Households		Individuals	
75% error	LFS	GHS	LFS	GHS
Old age pension	577 000	502 000	1 328 000	1 420 000
Disability grant	229 000	236 000	750 000	784 000
Child support grant	161 000	119 000	881 000	647 000
Care dependency grant	12 000	23 000	67 000	120 000
All social grants	980 000	894 000	3 020 000	3 052 000
	Households		Individuals	
100% error	LFS	GHS	LFS	GHS
Old age pension	586 000	497 000	1 456 000	1 416 000
Disability grant	221 000	244 000	692 000	837 000
Child support grant	155 000	120 000	880 000	739 000
Care dependency grant	8 000	17 000	20 000	62 000
All social grants	971 000	888 000	3 052 000	3 118 000

Source: Own calculations using September 2004 LFS and 2004 GHS data.

Our best guess is that all six grants on which the LFS and GHS collect information had the effect of raising about 900 000 households, containing somewhere in the region of three million people, above the poverty line of R309 per capita (R250 per capita in 2000 prices). Estimates of the extent of poverty reduction via the social grants differ, depending on which of the two data sets (the GHS and the LFS) is used as the information source. In general, the differences are minor. We know that the GHS found too many state pensioners, so the differences in the two sets of results can be ignored. Disability grant impacts are lower in both LFS scenarios (75 and 100 per cent under-reporting error). In line with the argument about the untenability of assigning the whole of that grant to poverty reduction, the LFS figures are claimed to be not unreasonable. Child support grants, by virtue of the method used to estimate their value, have a bigger impact in the LFS figures than in their GHS counterparts. The differences are quite large, going a long way to restoring the 'shortfall' in poverty reduction caused by the way that disability grants are treated. Care dependency grants (disability grants for children), are under-counted by both surveys. The effect of this on the overall numbers is, however, small, possibly in the region of 100 000 or so individuals.

Driving the reported reduction of three million in the poverty headcount between 2000 and 2004 in the van der Berg *et al* piece is the increase in social grants. The abstract in their paper puts it so:

> 'We find likely explanations for [the] strong and robust decline in poverty in the massive expansion of the social grant system as well as possibly in improved job creation in recent years.'

If the social grant system was only capable of lifting three million individuals above the poverty line in 2004 (half of them alone by the old age pension), it is difficult to see how expansion of the system raised (most of) an additional number of equal magnitude out of poverty between 2000 and 2004. That would require the system to have had a trivial impact in 2000. Although we cannot get access to data for the year 2000 (except for that in the Income and Expenditure Survey for that year), we do have data on 2001. Let us see what it can tell us about conditions in that year.

Changes in poverty 2001-2004

The reason why the September 2000 LFS cannot be used to test the proposition (from the van der Berg *et al* piece) that the headcount fell by three million or so between 2000 and 2004, is that in its infancy the LFS did not ask for expenditure data.[50] The non-response problem for the income questions in the September 2000 LFS cannot be addressed with any ease because the absence of expenditure data robs us of the simple method by which to impute incomes. Fortunately, the expenditure question (which used to be in the October Household Surveys - OHSs) was restored to the LFSs in September 2001. Non-responses or poor responses to the income question do not disappear in that and subsequent LFSs (and GHSs as well). The expenditure questions in them, however, elicit far fewer 'Refuses' or 'Don't knows' (or other forms of missing information) than do the income questions. That makes it possible to impute income, even if the simple category-type questions only permit rough approximations, for all but a small percentage of the workforce.[51] So, although it is not possible (or, at least, not very easy) to look at changes in poverty over the period 2000-2004, it is possible to do so for the period 2001-2004. The results of the attempt to do this are presented in Table 8 below.

Three sets of results are presented, two of them for the year 2004. One set is obtained from the September 2004 LFS and the other from the GHS for that year. Neither the GHS nor the September 2001 LFS collected data on migrant remittances. To make the September 2004 LFS figures comparable, it is necessary, therefore, to strip remittances from the income definition. It is also necessary to treat disability grants for the two years in the same way. Accordingly, the September 2004 LFS figures in Table 8 use the 'full value'

assumption for disability grants. Poverty headcounts for September 2004 thus exceed their counterparts in Table 6 by the amount by which remittances reduce poverty. A little mental arithmetic suggests that remittances appear to lift somewhere between one and one-and-a-half million people over the poverty line (depending on the extent to which incomes and remittances are under-reported). Lest it be thought that this number is small, it should be borne in mind that remittances fulfil the vital function of sending income into workerless households, even if they are not large enough to lift many of these households out of poverty.

Table 8 Poverty in South Africa, 2001-2004

September 2004 LFS				
Error level	Zero	75%	100%	200%
Headcount ratio (P_0)	0.510	0.427	0.399	0.370
Poverty gap ratio (P_1)	0.305	0.262	0.255	0.235
Headcount	23 300 000	19 500 000	18 600 000	16 900 000
Poverty gap Rbn	48.8	41.4	40.1	36.6
2004 GHS				
Error level	Zero	75%	100%	200%
Headcount ratio (P_0)	0.542	0.460	0.442	0.401
Poverty gap ratio (P_1)	0.231	0.186	0.180	0.155
Headcount	25 100 000	21 300 000	20 400 000	18 600 000
Poverty gap Rbn	55.0	47.5	46.3	42.0
September 2001 LFS				
Error level	Zero	75%	100%	200%
Headcount ratio (P_0)	0.549	0.459	0.439	0.389
Poverty gap ratio (P_1)	0.375	0.322	0.310	0.310
Headcount	24 800 000	20 700 000	19 800 000	17 600 000
Poverty gap Rbn	50.5	43.0	41.3	37.7
Change: Sept 01-Sept 04	-1 500 000	-1 200 000	-1 200 000	-700 000

Source: Own calculations using September 2004 LFS, the 2004 GHS, and the September 2001 data sets. Revised weights, supplied by Statistics South Africa, have been applied to the 2001 LFS data.

Note: Income equals income from employment plus social grants. No data on remittances are collected by the GHS and the September 2001 LFS.

There are three striking features in the results in Table 8. The first is that it looks, from the two sets of LFS results, as though the headcount fell by about 1.2 million over the three years, a far cry from the 3.1 million reported by van der Berg *et al* for the four-year period. The second, however, is the quite substantial drop in the poverty gap ratio (possibly from about 0.316 to about 0.258). Third are the big differences between the LFS and GHS results for 2004, the latter generating a far more gloomy picture.

Examining the findings on poverty reduction rates yielded by the two LFSs, if we discount the zero-error and 200 per cent error estimates, the figures suggest that the poverty headcount fell by about 1.2 million -let us be generous and say that it could have been as high as 1.5 million. This is not inconsistent with expectations. As we shall see in the next section of the paper, a substantial part of the social grant system was in place (we can see this anyway, simply by inspecting Table 4); employment growth was slack, and there were simply not enough workers in poor households for income growth to have made much of a dent in poverty.

To reject the finding that the fall in the headcount was approximately one-and-a-half million (instead of three million), a number of arguments could be advanced, the first being that it is inappropriate to use two sets of cross-section survey results as though they were time-series data. If this objection is valid, however, it must apply with equal force to the van der Berg *et al* effort, which does the same thing with AMPS survey data. Another possible problem is that the sample for the 2001 LFS was not adequate.[52] It is also possible that the survey design is such that unemployment, the major cause of poverty in South Africa, is significantly overstated, while employment is understated. To investigate fully each of the ways in which the results may have been infected, is no small undertaking. The onus is upon those who would dismiss these findings, to show why it is appropriate to do so.

Although estimated declines in headcounts in Table 8 are relatively slight, the falls in the headcount ratio are fairly substantial. Population growth and the reduction in poverty caused by the extension of the social grants,[53] are working in opposite directions, with the latter dominating, in part, because population growth rates are falling.[54] This outcome prompts a consideration of the contribution, positive or negative, of population growth to poverty reduction. South Africa's poverty reduction goal, like that of the other countries committed to the achievement of the Millennium Development Goals, is one of halving the 'rate', i.e., the headcount ratio (P_0).[55] The adoption of such a goal does not mean that headcount itself must fall as well - it is quite possible for population growth to cause headcounts to rise while headcount ratios fall. Whether or not one could then say that poverty had 'gone down' is one of the 'hard questions' posed by Kanbur (2004:6-7).

Poverty in the period 2001-2004 in South Africa appears, however, unambiguously to have 'gone down'. The headcount ratio (P_0) and the

headcount, as well as the poverty gap ratio (P_1) and the poverty gap all fall. The critical question, of course, is, by how much? Presumably emboldened by the van der Berg *et al* (2005) findings on poverty reduction, senior politicians, as we have seen above, have taken recently to asserting with confidence that the poverty halving goal will be met.[56] It is not known if these assertions are based on a model, or are merely back-of-envelope calculations informed by the apparent success of poverty reduction in the period 2000-2004.

Building a model to examine future possibilities is, of course, simplicity itself. Assume, for argument's sake, that the van der Berg *et al* poverty reduction estimates for the period cannot be extrapolated into the future. Assume instead, that the headcount falls by three million between 2004 and 2014. With a sustained decline in the population growth rate of 0.06 percentage points each year from a reported population growth rate of 0.92 per cent per annum in 2004-2005 (*Stats in brief 2005*, p.11), the headcount ratio would fall from 0.410 to 0.325. If it were assumed instead that the population growth rate were, say, 2.5 per cent per annum, and that it fell by 0.02 percentage points per annum, the headcount would be roughly static. If the population growth rate did not fall, the headcount would begin to rise slowly, producing the situation (and the hard question) to which Kanbur (2004) refers.

In South Africa's case, it is unlikely that Kanbur's hard question will be posed. Even if the rate of poverty reduction slows to a trickle, HIV/AIDS has reduced the population growth rate sufficiently to ensure that a fall in the headcount ratio will be accompanied by a fall in the headcount itself. It would be sobering, amidst the premature celebration of the likely attainment of the poverty halving goal, for the contribution of this awful epidemic to that (possible but unlikely) achievement, to be acknowledged.

Returning to the issue of the contribution of social grants to poverty reduction, we note that given the substantial sum that has been thrown at poverty, much of which seems to have stuck where it ought, it would indeed be surprising if the plight of the poor had not become slightly less desperate. One further indication that this has indeed occurred is given by the poverty gap ratio, which falls by somewhere between 15-18 per cent. Associated with this is a fall in the poverty gap as measured by the value of transfers that would have to be made each year to eradicate poverty. For both the 75 and 100 per cent error levels, the fall in this burden is between one and one-

and-a-half billion rands. As a matter of interest, the poverty gap of R35-37 billion in 2004, given in Table 6,[57] amounted to less than four per cent of the national accounts income total - that is what it would cost annually to eliminate poverty, if only some way could be found to identify those to whom the transfers should be made.

As far as the difference between the LFS and GHS results is concerned, part of it is going to arise from the different ways in which social grants are treated. The GHS, it may be recalled from the discussion on Tables 4 and 5, although it overstates the collection of state old age pensions, is generally better at finding out how many social grants are delivered, than is the LFS. This should imply, if the information on income from employment is satisfactorily gathered, that its ability to estimate poverty reduction is superior to that of the LFS. Until such time as the difference between the results the two instruments generate can be explained, conservative practice suggests that we accept the lower poverty headcounts. The GHS figures are thus present for information only - they act as a reminder of the fact that a thorough investigation is required to account for the differences.[58]

Summing up the findings of this section of the paper, it seems unlikely that increases in the number of social grants and their value[59] could have reduced the poverty headcount by much more than about 1.5 million between 2000 and 2004. If the headcount really did fall by three million over this period, as van der Berg *et al* claim, then the causes of the fall lie elsewhere. It is also important to note that the poverty gap ratio and the poverty gap both fell, a not unsurprising consequence of the relatively well-targeted expansion of the social grant system. They appear, however, not to have fallen by the magnitudes claimed by van der Berg *et al* (2005).

Let us delve deeper now into the question of what could have caused the claimed poverty headcount fall of three million.

COULD THE HEADCOUNT HAVE FALLEN BY 3 000 000?

Movement of people out of poverty could have resulted from several different causes. In the first place, social grants could reach more recipients. This may occur independently of two possible labour market changes: (i) employment among low-income households could increase, and/or (ii) the incomes of the working poor could grow sufficiently to lift them above the

poverty line. These two sets of changes should be connected, through the forces of demand and supply in the labour market. These forces may be attenuated or amplified by institutional pressures. While it is possible that there was some employment growth among the poor, and that there was income growth, it is well-documented that a major expansion of the social grant system took place. Some of the work necessary for addressing this question has been done in this and earlier sections of the paper. In the next section of the paper, an attempt is made to assemble the bits and pieces into a more comprehensive picture. After that is done, we look at employment and earnings.

Poverty reduction through social grants

To assess the validity of the van der Berg *et al* claim that the poverty headcount fell by more than three million over the period 2000-2004, much of the fall being attributed to the expansion of the social grant system, we need to assess the contribution of that system to poverty reduction in the relevant years. The present paper has had to restrict itself, for the reasons given above, to the years 2001 and 2004. As noted above, however, an examination of changes in the numbers of social grant beneficiaries in Table 4, suggests that with the exception of the roughly 600 000 additional child support grants that were distributed, the social protection system barely changed between 2000 and 2001.[60] If 4.9 million child support grants raise about 900 000 individuals out of poverty, then (very crudely) an additional 650 000 of them might have lifted 120 000 or so people above the line between 2000 and 2001. Even if the number were double this, it would not be very big. It follows, therefore, that not too much damage is done to the argument by using 2001 rather than 2000 as base year for the comparison.

An approximation of the impact of the social grant system is presented in Table 9. Once again, the absence of migrant remittance data for 2001 forces compromise upon us. The estimates are made by subtracting the numbers below the poverty line when only income from employment is taken into account, from the numbers below the line when income consists of income from employment plus social grant income. The distribution of poor people taking remittances as well as income from employment into account may differ from that based on income from employment alone. Even if remittances do not raise many above the line, they could bring a lot of households and the individuals within them close to it. Judging by the relatively modest size of remittances, especially in poorer households, it may be that the magnitude of the effect is small. Further speculation will serve no

point - we do not have 2001 data on remittances, so we assume that their poverty-reducing impact in 2001 was not much different from what it was in 2004.

With that, we turn to the figures in Table 9. These are presented at two under-reporting error levels, the zero- and 100 per cent levels. The 200 per cent level we know to be wildly improbable, and the 75 per cent level we know to be not far from the 100 per cent figures. Choosing the two error levels in the table is done so that the diminishing effect of social grants on poverty headcounts as assumed under-reporting error rises, can be illustrated.

Table 9 Poverty reduction by social grants, 2001-2004

	Households		Individuals	
2001 LFS	Zero error	100% error	Zero error	100% error
Income from employment only	5 916 000	4 862 000	26 477 000	21 438 000
Income from employment plus social grants	5 299 000	4 290 000	24 763 000	19 769 000
Poverty reduction by social grants	617 000	572 000	1 714 000	1 669 000
	Households		Individuals	
2004 LFS	Zero error	100% error	Zero error	100% error
Income from employment only	6 501 000	5 279 000	26 734 000	21 643 000
Income from employment plus social grants	5 412 000	4 308 000	23 247 000	18 592 000
Poverty reduction by social grants	1 089 000	971 000	3 487 000	3 051 000
Increased impact of social grants 2001-2004	472 000	399 000	1 773 000	1 382 000
	Households		Individuals	
2004 GHS	Zero error	100% error	Zero error	100% error
Income from employment only	6 425 000	5 410 000	28 469 000	23 506 000
Income from employment plus social grants	5 443 000	4 523 000	25 020 000	20 389 000
Poverty reduction by social grants	982 000	887 000	3 449 000	3 117 000

Source: Own calculations using September 2001 and 2004, and 2004 GHS data.

Note: The 'Package 4' assumptions were used on the 2004 LFS social grant data. The 2001 figures use 'Package 2' of a different assumption set. This is described below.[60]

The 100 per cent error assumptions applied to the 2001 social grant package lifts 1.7 million people out of poverty while the 2004 package moves just over 3.5 million people above the line. Larger than the 2001 impact by a bit over 1.4 million, the final 2004 headcount is a little less than 1.2 million lower than the 2001, because the pre-social grant headcount rises by about

200 000 between 2001 and 2004. This outcome (the 1.2 million headcount fall), it may be recalled, is the same as that presented in Table 8 (give or take the few thousand that are gained in the rounding-up process). If we add on the possible impact of the growth in the number of child support grants between 2000 and 2001 (some 600 000 grants), guesstimated above at a bit over 100 000, we have a total impact of about 1.3 million.

Once again, the GHS figures tell a slightly different story. Although the headcounts are much larger (as before), impact of social grants is very similar to that reported by the 2004 LFS. This raises the question, once more, of whether the headcounts registered by the LFS are more reliable than those suggested by the GHS. The possibility exists, of course, that neither is correct. What is obvious though is that the figures all deserve a thorough interrogation. Only then will it be possible to make authoritative claims about poverty reduction, one way or another. The van der Berg *et al* finding that poverty fell by more than three million between 2000 and 2004 gains no support from the social grant figures.

For a fall in the headcount of this magnitude to have occurred when the portion of it attributable to the social grant system was only 1.3 million, a further 1.7 million would have to have moved out of poverty by the operation of the labour market. In a time of reportedly rising unemployment, and slow economic growth, it is a little difficult to see how this could have taken place. Let us see what the official figures (which, it must be admitted, are far from being considered acceptable to all social analysts) have to say about the matter.

Poverty reduction through employment increases

Employment (and unemployment) figures in South Africa are disputed. The Labour Force Surveys are presently being modified (extensively), in part because of the frequent claims, especially by government spokespersons (including the President), that the employment and unemployment totals they generate are incorrect. There may be some merit in these claims, although whether or not this constitutes a case for disregarding them is moot. Mistrusting the LFS results is one thing - ignoring the story they tell altogether, as van der Berg *et al* do, requires at least some defence. Their case for the contribution of employment creation to poverty reduction rests on little more than sophisticated guesswork (van der Berg *et al*, 2005, pp.21-22).

To set the scene for the discussion that follows, the (disputed) labour market record for the period 2000-2004 is presented in Table 10. The table also gives an indication (crude) of the extent of economic growth during the period. As may be seen, this averaged about three per cent per annum. With population growth still positive at about one per cent per annum (SR P0302, 31 May 2005, p.10), per capita incomes could not, on average, have grown at more than two per cent per annum.[62]

If nothing else, the employment and unemployment figures have at least a sense of economic plausibility - employment dips sharply as unemployment rises. Towards the end of the period, unemployment falls as employment begins to rise. Of course, all of this may mean nothing at all - the observed changes may not be statistically significant; the employment numbers may be the captive of capricious definition (they include agricultural and informal economy workers, both notoriously difficult to measure), or the figures could simply be wrong, as critics of the LFS insist. If, however, the surveys capture the broad state of affairs, then poverty reduction is not what one would predict.

Table 10 Employment and unemployment in South Africa, 2000-2004

	Sept 2000	Sept 2001	Sept 2002	Sept 2003	Sept 2004
Working age population (1000s)	27 900	28 200	28 600	29 000	29 400
No. employed (1000s)	12 300	11 200	11 300	11 500	11 700
Official unemployment					
No. (1000s)	4 200	4 700	5 000	4 500	4 200
Rate (%)	25.4	29.4	30.4	28.0	26.2
Expanded unemployment					
No. (1000s)	6 400	7 700	8 200	8 300	8 100
Rate (%)	34.3	40.6	41.9	41.8	41.0
Participation rate (%)					
Official	59.0	56.3	56.9	54.8	53.8
Expanded	67.0	67.0	68.1	67.8	67.3
	2000	2001	2002	2003	2004
Economic growth: GDP	100.0	102.9	106.8	110.0	114.9

Source: Labour market data. Statistical ReleaseP0210, 26 September 2005, various tables.
GDP is gross value added at basic prices at constant 2000 prices, from the SARB QB, June 2006, p.S113.

Incidentally, the estimates of participation rates in Table 10 demolish an oft-repeated (by government) 'explanation' for lack of success in the battle against unemployment, namely, that growth of participation rates has so outstripped the rate of growth of the potentially economically active population (and job creation rates) that increasing unemployment was inevitable. As may be seen, the official participation rate falls over the period, and the expanded participation rate is steady.

So much for the bigger picture - let us dig into the details to see how the poor fared in the labour market. Table 11 shows the distributions of employment and unemployment by monthly household income extracted from the LFSs for September 2001 and 2004 respectively. Two sets of under-reporting assumptions are used, zero and 100 per cent. Income is from employment only (ie. no migrant remittances and no social grants are included).

Table 11 Employment and unemployment by monthly household income category (1000s) 2001-2004

2001 - Zero error assumption	Zero	R0-264	R264-528	R528-792	R792-1056	R1056-1320	R1320-1584	R1584-1848	R1848-2112	R2112-2376	R2376-2640	R2640-4999	R5000-9999	R10000+	Total
Employed	243	606	1046	834	705	771	462	474	576	306	357	1613	1792	1622	11 399
Officially unemployed	2101	207	324	225	240	264	147	117	195	72	96	399	210	78	4672
Expanded unemployed	3623	396	549	399	390	405	207	189	285	111	138	576	306	108	7678
Working age population	9101	1514	2254	1718	1496	1631	881	884	1187	576	663	3057	2832	2173	29 966
2004 - Zero error assumption	Zero	R0-309	R309-618	R618-927	R927-1236	R1236-1545	R1545-1854	R1854-2163	R2163-2472	R2472-2781	R2781-3090	R3090-4999	R5000-9999	R10000+	Total
Employed	252	529	909	934	774	783	481	632	331	362	541	1261	1893	2157	11 830
Officially unemployed	1987	129	217	230	183	217	123	161	82	54	158	227	280	107	4150
Expanded unemployed	4034	305	519	485	362	406	208	296	136	114	252	406	437	177	8127
Working age population	10 199	1233	2063	1928	1538	1576	906	1249	598	642	1117	2245	3210	2946	31 438
Change in no. employed: 2001 to 2004	9	-77	-137	100	69	12	19	158	-245	56	184	-352	101	535	431
Cumulative population															
2001 (1000s)	14 372	16 857	20 304	22 973	25 185	27 568	28 808	30 053	31 783	32 634	33 582	37 969	41 926	44 811	
2004 (1000s)	15 731	17 738	20 932	23 787	26 080	28 399	29 690	31 488	32 325	33 227	34 769	37 933	42 436	46 386	
2001 - 100% error assumption	Zero	R0-264	R264-528	R528-792	R792-1056	R1056-1320	R1320-1584	R1584-1848	R1848-2112	R2112-2376	R2376-2640	R2640-4999	R5000-9999	R10000+	Total
Employed	243	174	432	441	606	468	366	399	303	228	543	1924	1858	3417	11 399
Officially unemployed	2101	63	144	153	168	123	102	147	93	63	201	558	468	288	4672
Expanded unemployed	3623	120	276	240	309	231	168	240	150	108	297	828	678	414	7678
Working age population	9101	450	1064	953	1301	995	723	867	630	441	1190	3722	3527	5005	29 966
2004 - 100% error assumption	Zero	R0-309	R309-618	R618-927	R927-1236	R1236-1545	R1545-1854	R1854-2163	R2163-2472	R2472-2781	R2781-3090	R3090-4999	R5000-9999	R10000+	Total
Employed	252	145	384	409	500	516	419	340	434	390	393	1450	2157	4050	11 830
Officially unemployed	1987	38	92	92	126	114	117	85	98	114	104	365	437	387	4150
Expanded unemployed	4034	98	208	230	293	258	227	186	177	211	195	642	768	610	8127
Working age population	10 199	365	868	922	1145	1054	874	720	818	793	783	2761	3990	6156	31 438
Change in no. employed: 2001 to 2004	9	-29	-48	-32	-106	48	53	-59	131	162	-150	-474	299	633	431
Cumulative population															
2001 (1000s)	14 372	15 127	16 849	18 326	20 283	21 824	22 958	24 254	25 175	25 810	27 549	32 895	37 952	44 791	
2004 (1000s)	15 731	16 346	17 736	19 132	20 946	22 519	23 798	24 880	26 079	27 256	28 400	32 367	37 954	46 408	

Source: Own calculations from September 2001 and September 2004 LFS data sets.

The heavy concentration of the unemployed in zero-income (from employment), more marked in 2004 than in 2001, is one of the first features of the results to capture attention. Table 11 suggests, assuming a 100 per cent under-reporting error, that in 2004, more than half of the population lived in households where expenditure was less than R1854 per month.[63] For the zero error assumption, the income figure that cuts off half of the population is, of course, much lower. The poverty analysis tells us that in 2004, 91 per cent of those below the poverty line were to be found in households where total income from all sources was less than R1854 per month, and 96 per cent in households below R2163 per month (assuming an under-reporting error of 100 per cent).

As may be seen in Table 11, net employment growth in households below R2163 per month is negligible - it could, conceivably, even have been negative. Only in the zero-error results (which must be incorrect because they ignore at least some degree of under-reporting) is there any suggestion of employment growth. That growth is restricted to the income category R1854-2163. Its contribution to poverty alleviation would thus have been small. With all the caveats about the LFS results in mind, the Table 11 results offer the tentative conclusion that employment growth cannot have accounted for much, if any, movement out of poverty.

Under-reporting assumptions, as one would expect, have a significant impact on the distribution of the employed and the unemployed. This mirrors the movement of people out of the lowest income categories, as income from employment is allowed to increase. For our purposes here, it is the figures on employment that are of the greatest interest. Although they are a little tricky to interpret, it looks as though employment grew by about 430 000 over the three years, with the bulk of this taking place in the highest income class. This much, at least, is consistent with the story about the growing black middle class told by van der Berg *et al* (2005:19).

Ominously, the figures on the distribution of 'new' jobs appear to confirm Bhorat's (1999) analysis of a movement away from a demand for unskilled or low-skilled workers towards an increasing demand for skills. Among households in the nine income categories below the R2112 per month level, net employment growth over the period was negative (the numbers of employed people in these categories fell). In 2004, these households contained 26 million people, well over half of the total population. If the

figures in the table are to be believed, then more than 900 000 new jobs were created for people in the top two income categories, over 600 000 of them in the open class, R10 000 per month plus.

One could attempt to explain the increasing numbers of workers in the upper income categories by positing that they migrated up from lower income categories because their incomes rose. Clearly, this will be true for some proportion of the workforce, especially those near category upper boundaries. It seems an unlikely explanation for the story told by the figures in Table 11. The range of categories at the top end is large, so the observed means are quite far apart.[64] To expect the kind of income increases that would permit much movement between categories is asking a lot from the growth of just three years.

Settling the question of who has benefited from growth in South Africa is clearly a task of the greatest possible importance. The evidence presented above suggests that it was not the poor. On this score, van der Berg and his colleagues seem not to agree. Having modelled the distributional impact of the increase in social grants, they turn their attention to the labour market. The account of their offering is worth reproducing in full. Here is what they say:

> 'An alternative experiment considers the poverty impact of creating an additional one million jobs. The hypothetical (approximately) one million jobs were allocated according to the likelihood of employment based on a probit model of current employment. In calculating the income impact of such an expansion in jobs, the average unskilled wage was applied to the group who were additionally allocated jobs in our hypothetical scenario. As the tables below show, the bulk of the additional jobs would be allocated to the bottom five deciles of households, many of whom are currently without any wage earners. The rise in mean incomes is also considerably higher among the bottom five deciles. Using a R3000 per capita annual household income as a poverty line, 299 096 households are lifted out of poverty after the simulated increase in employment. This amounts to a 2.6 percentage point reduction in the percentage of the population that is poor. This last column also shows that the proportional income impact of the additional jobs is by far the greatest amongst households who are presently the poorest. Mean income of those presently constituting the poorest decile would increase by almost 46 per cent, whereas the mean incomes of the fourth poorest deciles and above

only increase by less than 10 per cent, with the impact proportionately least at the top of the distribution.' (van der Berg *et al*, 2005, p.21)

No doubt the experiment has been honestly performed. The message cranked out is one that all development practitioners and politicians want to hear - that growth is pro-poor. The finding is, however, diametrically opposed to the story told in Table 11 above by the LFSs. If it was not obvious before, it should be clear now, why a way must be found to narrow the distance between these two accounts (one purportedly actual, the other hypothetical)[65] of the shape of South Africa's recent economic history. The matter is too important to be treated as it has been up until now. From my calculations, it appears that households in the bottom decile of the distribution contained no workers at all. To raise their mean incomes by 46 per cent implies a miracle of job creation, one that manifestly has not happened.

Poverty reduction through income increases

The Labour Force Surveys are panel surveys of a sort, even though 20 per cent of the sample is rotated out of them with each succeeding round. If they were doing their job properly, they should be able to answer questions about income growth in a trice. Longitudinal analysis, however, with its requirements for matching respondents, is a demanding business, and one which is still in its infancy as far as the LFS is concerned. Despite the insights that the (pseudo) panel might offer, there is little to tempt me into this minefield. As far as I am aware, no-one else has yet attempted to use the LFSs to answer questions about earnings.[66] In any case, even if matching were performed satisfactorily, there would still be the problem of under-reporting of income to confront. Even if there were roughly constant bias in the data, which would allow trends to be estimated, without reasonable knowledge of absolute income levels, little could be said about the contribution of income (earnings) growth to poverty reduction.[67]

In the absence of longitudinal analysis, time series analysis carried out on data from household and other surveys has become the stock-in-trade of those seeking to understand the South African labour market. For many years, rising incomes among African workers, in particular, were the subject of energetic debate, with conservative critics seeking to show that some large part of South Africa's unemployment problem could be attributed to wage increases (primarily the fruit of trade union activity), not being matched by productivity increases. In 2004, however, Casale, Muller and

Posel (2005) leapt into the fray, arguing that average real earnings fell in value over the period 1995-2003 (2005:10ff). This intervention occurred during the debate over job creation during the run-up to the national elections in that year (government claimed that two million jobs had been created under its stewardship - the three authors claimed that the true figure was probably nearer 1.4 million).

In the most recent episode in this saga, Burger and Yu (2006), who incidentally, are two of the co-authors of the van der Berg *et al* (2005) piece whose findings are contested by the present paper, challenge, in turn, the Casale *et al* findings on earnings. Burger and Yu attempt to clean up the surveys to reduce anomalies such as the effects of outliers, and to find a way to bridge the break in the series caused by the changeover from the October Household Survey, the last of which was conducted in 1999, to the Labour Force Survey, tried as a pilot in February 2000, and expanded to full size (30 000 households) by September 2000.

The authors present their results in graphical rather than table form, but even with this drawback it is clear that interpretation is sensitive to end-point selection. Looking at their Figure 3 (p.8), if one starts with the very first LFS, earnings of informal economy workers appear to increase from about R500 per month (in 2000 prices) in February 2000 to about R900 in September 2005. Real earnings in September 2000, however, look as though they were about R800 per month. They dip (inexplicably?) to about R600 per month in February 2001, only to climb again. This erratic behaviour undermines the validity of their claim that 'the earnings of the self-employed have been steadily increasing' (2006:8). Real earnings of the self-employed show a more substantial increase, possibly from about R1900 to about R2500 between September 2000 and September 2004 (2006, Figure 4, p.9). They, however, are unlikely to have been numbered among the poor in the first place, so are not of great interest to us. A similar conclusion holds for workers in the formal sector, where average earnings rise from about R2700 to R2800 per month between September 2000 and September 2004 (2006, Figure 5:10). African workers in the formal sector see their average real earnings rise from about R1800 to R2000 per month between September 2000 and September 2004 (2006, Figure 8:12). Average earnings of the unskilled show precious little change over the period September 2000 and September 2004 (2006, Figure 10:13), possibly rising from about R900 in 2000 to R1000 in 2004.

There is little in all of this to encourage the belief that rising real incomes contributed much to the decline in the poverty headcount asserted by van der Berg *et al* to have taken place between 2000 and 2004. If employment of lower skilled workers fell, or was static (as the figures in Table 11 above suggest), there would be even less reason to believe that any part of the asserted headcount fall was due to income increases. In short, the case for poverty reduction of the magnitude they claim comes to rest on social grants. These, as has been argued above, are unlikely to have raised more than one-and-a-half million people out of poverty. This is not to suggest, as has been emphasised above, that the poverty gap has not fallen. For most of the beneficiaries, the grants must have been an absolute godsend. It does the poor little service, however, to exaggerate the extent to which their plight has been relieved by government's ambitious expansion of the social grant system. It is a shame that this ambition is limited to the expansion of the child support grants. Doing so leaves the group of people between the ages of 15 years and 60 or 65 (depending on whether they are male or female) with no social protection in the face of a truly massive unemployment problem. To pretend that problematic measures like the over-hyped Expanded Public Works Programme can fill this void adds insult to injury.

CONCLUSION

Analysis of the Labour Force Survey data for September 2001 and September 2004 suggests that the poverty headcount in 2004 (using a poverty line of R309 per capita per month)[68] was probably in the region of 18 million. The corresponding figure in 2001 would probably have been in the region of about 19.3 million. These results contrast strongly with those produced by van der Berg and his co-workers (18.5 and 15.4 million respectively in 2000 and 2004). My conclusions are sensitive to the assumptions made about income under-reporting, about migrant remittances and about social grants, in particular, the disability grant. Without taking any account of unreported investment income, the assumption that income from employment is under-reported by 100 per cent (i.e., actual incomes from employment are double reported incomes) would equate survey total incomes with national accounts totals in both 2001 and 2004. If, as I suspect, unreported investment income in the Labour Force Surveys is substantial, then an adjustment of 100 per cent for under-reporting of earnings would be excessive (the total of adjusted survey earnings plus unreported investment income would exceed the national accounts estimate of total income). This

means, of course, that a smaller correction than 100 per cent would probably be appropriate. Using the most generous of the grant and remittance assumption packages in Table 6, with an income under-reporting assumption of just over 75 per cent, leaves us with about 18 million people below the poverty line in 2004. More precise than this it is not possible to be.

Without social grants, it is safe to say, conditions among the poor would have been dire indeed. The grants appear to have lifted about 1.7 million people over the poverty line in 2001. By 2004, rapid expansion in the number of grants made, raised that figure to about 3.2 million. Child support grants have relatively limited effects on poverty headcounts. This is due to the small size of the grant, and to the fact that many of the households into which they flow have no other sources of income. Among the social grants, the one with the greatest impact on poverty, not surprisingly, is the old age pension. In 2004, the approximately two million pensions raised about 1.5 million people in 600 000 households over the poverty line. Five million child support grants, by contrast, look as though they lifted about 900 000 people in 150 000 households out of poverty.

Estimating the impact of the disability grant poses intractable problems. Since most of the recipients of disability grants are poor, it is probably appropriate to allocate the bulk of the money paid out in the form of disability grants to a reduction of the poverty gap. The impact on headcounts cannot, however, be estimated with any ease. This is because the costs of meeting the special needs of the disabled are not known with any precision. The numbers of people (and the households in which they are located) lifted out of poverty, cannot, therefore, be determined. In the present paper, two assumptions about the value to be allocated to reduction of headcounts are used. These result in approximately 400 000 or 700 000 people lifted out of poverty, depending on the combinations of assumptions used. Research into this question is urgently required. Unless the state can find ways to halt the growth in the numbers claiming the benefit (which, given its concern with 'perverse incentives' in the social grant system, it is undoubtedly keen to do) it shows signs of overtaking the old age pensions in size. Understanding its impact is a matter of obvious importance.

According to van der Berg *et al*, the poverty gap ratio rises slightly, from 0.200 in 1993 to 0.205 in 2000, and then falls to 0.146 in 2004 (2005:17). The 2004 LFS data suggest rather that the ratio was somewhere between 0.245 and 0.216 (depending on under-reporting error and benefit package

assumptions - see Table 6), possibly having fallen from about 0.28 in 2001.[69] While the increase in social grant expenditure is to be welcomed, the poverty gap in rand terms in 2004 was still some R35-37 billion per annum. As noted above, this was less than four per cent of income according to national accounts - a small price to pay for eradicating income poverty, if only some way of delivering it to the right people could be found.

Among the 18 or so million people below the poverty line in 2004, only 775 000 were employed. Located in 700 000 households containing 3.9 million people, they demonstrate that the problem of the working poor is still very much with us. The other 14 million or so people below the poverty line live in workerless households (most containing working age people, but in which nobody had employment). These zero-income (from employment, that is) households survived on a mix of social grants and/or remittances. By the time these had all been allocated, there remained about 1.8 million people in households receiving no incomes at all. It is possible that the survey failed to capture income that they earned because the reference period in which they were required to report earnings (the previous seven days) is too short.

The claim by van der Berg *et al* that the poverty headcount fell by three million does not receive much support from the evidence available. Poverty reduction can come about for three reasons: employment growth; earnings growth and increases in social grant income. On the employment front, it looks as though those at the top end of the distribution scored handsomely (a more than 600 000 increase in the number of workers in the R10 000 plus household income category over the period 2001-2004), while the numbers employed at lower income levels fell. Earnings growth of unskilled workers was unspectacular, as one would expect in a time of high and rising unemployment, and certainly not enough, when distributed among the handful of workers in poor households, to have contributed much to a headcount reduction. Social grants increased in number, but do not appear to have been sufficient to lift more than an additional 1.3 million or so out of poverty. On the positive side, the poverty rate almost certainly fell. In the absence of the improved social protection by which it was apparently caused, poverty would have been much worse.

The fact that two of the household surveys conducted by the Statistics South Africa (the Labour Force Surveys and General Household Surveys) yield consistently higher estimates of poverty than do the AMPS figures (in the

hands of van der Berg and his colleagues), must be satisfactorily explained. Whatever view one takes of the extent of under-reporting in the LFSs and GHSs, the fact that both collect income and expenditure data independently (however crudely) does set them apart from the AMPS surveys, which collect income data only, and that only, as noted above, in bands or categories. The LFSs and GHSs make use of separate samples drawn from a master sample that is now allegedly in good condition. Their independence, one from the other, is important. Someone bent on dismissing poverty estimates built on Stats SA figures, must explain why respondents in the two unrelated surveys tell similar lies about income and expenditure.

It cannot be denied, however, that the LFSs and the GHSs have problems that render them somewhat less than ideal instruments with which to measure poverty. In addition to the problem of under-reporting, there are several other areas that need attention. One of these is migrant remittances. Another is social grants. As I pointed out in Meth (2006a), the information collected by the LFSs on grants is not easy to interpret. There are also other components of income on which data are not collected by the LFSs and GHSs (investment income being probably the most important, but there are others such as maintenance payments, for example). In addition, ways have to be found to deal with missing incomes and with implausible zero incomes in the surveys. All of this means that the quality of the estimates of poverty that can be produced using official statistics leaves more than a little to be desired. The same, however, is probably true of the AMPS surveys, the purpose of which is not to gather information for poverty studies. In short, there is much work to be done, and a number of problems that have to be solved before any of the households surveys conducted in South Africa can be said to be yielding reliable poverty estimates.

To end this part of the concluding section, a few observations on the virtues of estimating income poverty are in order. Before the van der Berg *et al* (2005) results appeared, the invariable response of the state to the claim that the problem of income poverty in South Africa was not being tackled with sufficient energy, was to attempt to deflect attention away from the claim by pointing to the poverty alleviating effects of what it describes as the 'social wage'. Now, of course, it claims in addition, to have made a significant impact on income poverty as well. The present paper argues that the latter claim is not justified.

It is necessary to restore some balance to the debate about the significance of income poverty. For many years now, scholars working in the field have recognised and insisted that income poverty is but one aspect of a complex and multi-facetted problem, and that to focus on income poverty alone, is to lose sight of this complexity. The validity of this is universally acknowledged. There is, however, a danger that excessive repetition of this obvious truth can hinder the struggle against poverty. It does not follow that because measurements of income poverty cannot hope to capture the totality of the deprivation and exclusion that poverty in general entails, that income poverty is not important. Unless the state (or charity) can meet all of the material needs of the poor, some income is necessary. How much, is a difficult and much-debated question, but one which nevertheless, cannot be avoided. It is clear that the 'social wage' in South Africa reduces the income required to maintain the minimum lifestyle regarded as socially acceptable. What the magnitude is of this reduction, nobody has thus far, with any reliability, been able to say.[70] Yet there is, as noted above, a marked tendency among politicians in South Africa, when confronted with estimates of income poverty that do not please them, to trumpet bald statistics of how many houses have been delivered, or electrical connections made, or clinics built, as though this somehow renders the issue of income poverty less urgent. This tactic should not be allowed draw attention away from the fact that people living below the income poverty line (after due allowance is made for the effect on that line of the so-called 'social wage') are poor.[71] Acknowledging the existence of widespread income poverty does not detract in any way from the importance of an analysis of the extent to which people may or may not be poor along any of the other axes along which poverty may be measured.

RECOMMENDATIONS

During the conducting of the research, the results of which are offered in the present paper, a number of topics for further research work, and for changes to the questionnaires that could improve the capacity of the household surveys to measure poverty, suggested themselves. In the case of one or two of these recommendations, it will not always be obvious how the improvements suggested fit into the present study. The short answer is that sometimes they do not do so directly. They turn up, when, in the course of examining a particular issue, a digression discloses new problems, which, if attended to, would enhance the quality of the surveys overall. The suggested

changes, both those that are directly relevant and those that are only peripherally so, are described below as a set of recommendations (directed mainly at Statistics South Africa, the producers of the LFS and GHS).

As I argued in Meth (2006a), there is virtue in the use of the major household surveys as instruments with which to measure poverty, notwithstanding the antipathy towards doing so displayed in the past by senior Statistics South Africa personnel (see Meth, 2006, p32n). This reluctance is odd, given the history of the surveys. The final October Household Survey (OHS), conducted in 1999, was explicitly intended to facilitate poverty monitoring. The survey was made possible by a grant from the UK Department for International Development (DfID), in circumstances described thus on the first page of the statistical release:

> 'The Office of the Presidency approached DFID for funding, and DFID provided the required eight million rands to undertake the survey, with prime emphasis on poverty monitoring.' (SR P0317, 31 July 2000, p.i)

Where the pressure originated for the emphasis to be placed on poverty monitoring is not clear. Whatever its source, however, the emphasis was sensible. Lost in the subsequent flurry of Labour Force Surveys (LFSs) that supplanted the OHS, and never quite regained by the General Household Surveys (GHSs), poverty monitoring using official statistics ground to a halt. This is unacceptable. Between them, the LFS and GHS constitute a potentially excellent source of information on poverty. Both surveys must be reworked so that they can fulfil this potential. The social grant questions must be restored to the LFSs, in a form similar to that used in the GHSs. Their absence from the LFSs, makes it extremely difficult, if not impossible, to understand the dynamics of labour market search activity. The social grant questions in both surveys need to be sharpened so that they perform better. In the GHS there are far too many people reporting receipt of state old age pensions. This is probably because they are led by the questionnaire to confuse state with private pensions.

For the child support grant, a significant proportion of respondents are reporting the care-giver as recipient of the grant.[72] This can be eliminated through interviewer training.

Disability grants pose an interesting problem. Of the million or so recipients of the grant detected by the 2004 GHS, over 400 000 answered 'No' to the

filter question (1.41) which asks whether anyone in the household is limited by disability. A simple link to question 1.50, which asks whether grants have been received, would overcome this problem. Apart from the many fraudulent claims for disability grants that may be lurking among this group of recipients, there are also likely to be many who receive the grant because they have TB or AIDS and are sensitive about disclosing the reason for being eligible for it. Their privacy can easily be maintained by the use of the option 'Other' when the type of disability is explored.

Collection of income data in the LFS must be improved. In particular, the practice of gathering data on income from employment only must be changed. Investment income forms a significant part of total income, but anybody who is not classed as employed is not asked the income (salary or pay) questions. The surveys therefore skip, for example, over some of those living on income from investment. In addition, depending on the relative sizes of incomes earned, those who receive earn income from both employment and investments, have to omit information on one of the sources, because respondents are requested to furnish the information for their 'main' job (Question 4.15 in the September 2004 LFS and Question 2.8 in the 2004 GHS).

Some difficulty was experienced in incorporating migrant remittances into household income. This appears to result from the way in which migrants are identified in the data set. Persons in the household are identified by a Unique Household Identifier (UqNr) in columns 1-14, and by a number ranging from 1-30 in columns 15-16 in the Person data file. Migrants are identified by the same Unique Household Identifier (UqNr), and a migrant number ranging from 1-7 in column 15 of the migrant data file. Try as I might, I could not easily distinguish migrants from household dwellers, when trying to integrate migrant incomes into household income. Could this problem not be solved by commencing the numbering of migrants at 31?

Inexplicable zero incomes in very poor households may be caused by the seven-day reference period in the income question. If poor people work sporadically, a few days here and a few days there, with long gaps between spells of work, the LFS could easily miss such activity. It is revealing that the agricultural questions in the LFS show millions of people engaging in subsistence production at various points in the year, while the stricter notion of employment in the activity captures only a few hundred thousand. Ways

must be found to discover how very poor people survive—their incomes cannot be zero, week after week.

One of the advantages of the LFS and GHS over the AMPS is that they collect information on both income and expenditure. Even though the latter is in category form (with quite wide categories as expenditure levels rise), it is much better than no information at all. The quality of both income and expenditure estimates can be improved if, while still in the field, the interviewer can check to see that the values given for the two variables are consistent. If income exceeds the upper bound of the category given for expenditure, the interviewer should probe to see whether the difference is saved. If, by contrast, income is much lower than the mean of the expenditure category reported, interviewers should probe this as well.

It is time to call a halt to the proceedings. I do so with the call for a way to be found to reconcile the differences between the findings of van der Berg *et al* and my results reported here.

FOOTNOTES

1 My partner, Anna McCord gave up a lot of precious time (for which I am deeply grateful) to read the draft of this paper. The time it took me to make the emendations she suggested showed how diligently and critically she tackled the job. Needless to say, such errors as escaped our scrutiny are my responsibility.

2 Replication of results without complete details of the way in which they have been obtained is sometimes very difficult indeed.

3 The status of Netshitenzhe's claims, and the validity of some of his 'facts' are discussed in Meth, 2006b.

4 When the Department of Social Development says that it has paid out 4 309 772 million child support grants in the month of April 2004, it is stating a fact, verifiable by means of the paper trail in its wake. Netshitenzhe is on safe ground when he recites such numbers. As soon, however, as he ventures into the interpretation of what such facts might mean for poverty, he exchanges the security of the verifiable for uncertainty of the artefact - something observed in a scientific

investigation that is not naturally present but occurs as a result of the investigative procedure. (*Oxford English Dictionary*).

5 The September 2001 LFS also serves as a primary source, while 2004 General Household Survey (GHS) furnishes comparative data where the LFS is particularly weak.

6 Estimates of income in the AMPS surveys are only available in category or band form, so the authors are obliged as well to estimate means in the different income categories.

7 Made at a two-day seminar on poverty measures, held under the auspices of the National Treasury in Pretoria in June 2005.

8 The LFS data for September 2004 do not contain household expenditure estimates. It is not possible, therefore, to impute incomes where these are missing.

9 In addition to those discussed here, numerous other survey design problems are spelled out in Meth, 2006a, pp.76ff.

10 The Labour Force Surveys, as their name implies, are intended to make the study of labour market dynamics possible. It is only the lengthy delay in stripping out the October Household Survey inheritance that has made it possible to use the LFSs (up until September 2004) to measure poverty. The streamlining of these surveys to make them better at performing their more limited role, includes such retrograde steps as removing all of the social grant questions (Meth, 2006a). A re-examination of the purposes of Statistics South Africa's major household surveys is urgently required.

11 As noted above, the AMPS income data on which van der Berg *et al* base their results, are available only in category or income band form.

12 Weighted up to the full population, individuals in zero-income households who were employed but for whom no incomes could be imputed, numbered about 252 000 among 11.8 million employed, or about 2.1 per cent of the total. The difference between sample and population proportions is presumably accounted for by the relative weights.

13 In the open category (R10 000 plus) the assumed mean is R23 000 per month. In the bottom expenditure category (R0-400 per month), it is R200. This is lower than the reported mean in those households containing workers who provided answers to the income question. There were 20 individuals in the bottom expenditure category who refused to answer the income question, and 35 who claimed not to know income levels. These numbers are so small that even if the true mean is higher than R200 per month, it would make little difference to the poverty estimates.

14 In the counterpart to the present paper (Meth, 2006a), I used income estimates to impute household expenditure levels, where the latter were suspect (incomes exceeded the upper bounds of expenditure categories).

15 This will be tested and reported on in a future version of this paper.

16 In Table 11, the figures are 13.7 and 14.9 respectively. The figures in the table have been adjusted to remove those who do not belong in the zero-income category, like the 250 000 workers and the members of their households.

17 Figures for the expanded unemployed would obviously be similar.

18 In 2001 the category boundaries were R0-264 and in 2004, R0-309 per month. The upper bound in each case is the value, in current prices, of the R250 poverty line, which is given in 2000 prices. The lower bound of the categories in each case should be some small, positive amount rather than zero.

19 See spreadsheet LFS 2004 – 100 percent error.xls and LFS 2001.xls, worksheet 'Missing' in each case.

20 This is about nine per cent of all households, the difference being a consequence of the 'fact' that the average number of people in 'true' zero-income households is smaller than the national average.

21 See the LFS metadata. For the employed, Status1=1.

22 This was pointed out to me by Michael Noble, Director of the Centre for the Analysis of South African Social Policy (CASASP) in Oxford

University. They need not necessarily do so - it is conceivable, for example, that someone who lives on the rent generated by, say, several apartment blocks, could consider themselves to be 'employed'.

23 See Question 2.1 in the September 2004 LFS.

24 Question 4.15 in the LFS on income, is applicable 'to household members who have been performing certain economic activities in the seven days prior [to] the interview.'

25 Another problem is that either the 2004 GHS has 500 000 households too few (or the September 2004 LFS has 500 000 too many). For a comprehensive review of some of the changes that need to be made to both the GHSs and the LFSs to turn them into useful instruments for measuring poverty, see the concluding section in Meth (2006a).

26 While writing the concluding section in Meth (2006a), I discovered, and was very surprised to do so, that the entire household section, and with it the questions on social grants, had been excised. Its restoration is strongly recommended—without such information, it is impossible to understand the job search activities of the poor (Meth, 2006a).

27 The ability of the surveys to find the correct numbers of social grant recipients is a measure of their (the survey's) quality.

28 Michael Noble of CASASP points out that about 80 per cent of respondents in the 2004 GHS identify the child in respect of whom the grant is paid. The remainder identify the care-giver, pers comm., 15th August 2006. The question in its present format was first introduced in the 2003 GHS (Question 1.38).

29 The GHS figure is for July, whereas the Table 4 figure, which originates in the departmental figures (the SocPen database) are for the month of April.

30 Curiously, the number of care dependency grants, which the Table 4 figures put at about 78 000 in 2004, is relatively well captured by the GHS (58 000). It effect on poverty, in the overall results presented in this paper is thus correspondingly greater than that of the much more widely distributed foster care grants. The foster care grant was worth at R540 per

month in 2004. The care dependency grant, a disability grant for a child, had the same value as the disability grant for adults, R740 per month.

31 At least, spending in households receiving the disability grant (and other social grants) appears to be more responsible in focussing more on 'good' consumption (food, fuel, housing), than on 'bad' (like tobacco). See EPRI, 2004, p.3.

32 A couple of studies carried out by the Community Agency for Social Enquiry (CASE) (Schneider *et al*, 1999 and Schneider and Claassens, 1999), although somewhat dated, look as though they could be of interest. Unfortunately, they are marked on CASE's website as 'Not for distribution'.

33 R1502 per month and R266 400 in the case of a single applicant, and R2782 and R532 800 for married applicants in 2004 (Simchowitz, 2004, pp.4-5)

34 The sequential multiple regression technique can probably give a rough indication of what incomes (and expenditure levels), but rough is the operative word.

35 Korinek *et al* (2006) point out that non-response may take the form either of unit non-response, where certain selected households do not participate, or of item non-response, where households do not answer certain questions. Presumably compliance functions in both cases may be either monotonic or U-shaped.

36 Among the rural poor, where most expenditure is on food, Deaton (2003, p.32) argues that the 'proxy' respondent's report is likely to be 'quite accurate'. This, he says 'is much less so in more diverse and better-off households, with some family members working outside of the home, and maintaining partial budgetary independence.'

37 Non-response, another possible cause of the difference between survey and national accounts income estimates, is most prominent in South Africa among households in 'high-walled security areas and golf estates', see P0210, 31 March 2005, p.ii. Such households are almost certainly well-off. This may bias the sample in the direction of poorer respondents, causing poverty to be overstated (Korinek *et al*, 2006, p.34).

38 Ravallion has also compared surveys and national accounts data as sources of information on economic welfare (2003). Concentrating mainly on private consumption expenditure (PCE), he shows that the concepts generated respectively from the two sources are essentially incomparable. Working his way through a long list of different problems that plague both, he comments that there can be no presumption that either is right, or wrong (2003:647). Similar considerations presumably apply to income. On the issue of the incomparability of the two measures, see also Havinga, Kamanou and Vu (undated).

39 Ravallion addressed the question of the validity of 'anchoring poverty measures in the national accounts' on an international scale in a special article in *The Economist* (Apr 7th 2004). Written in response to an earlier claim in the publication that World Bank surveys were overstating poverty (see *The Economist* of 13th March 2004), Ravallion notes that the research cited by *The Economist* relies on poverty estimates anchored in national accounts, rather than surveys. Although when suitably adjusted, the two approaches point to similar trends, he warns that there is no room for complacency about poverty.

40 For the Indian case, Ravallion offers the following explanation: 'The difference,' he says, 'between the NAS and NSS consumption numbers reflects in part measurement errors in the former and the fact that the spending of the (apparently growing) non-profit sector cannot be separated from household consumption when accounting for domestic absorption of measured output in the NAS.' (2000:3251)

41 Most favoured among welfare indicators is private consumption expenditure (PCE). In working with the literature, I have treated income and consumption (expenditure) as though they were interchangeable. The weaknesses of doing so are acknowledged. It is likely, however, that many of the problems of under-reporting are common to the two concepts. In any case, since the attempt to estimate poverty in the present paper is undertaken as a means of testing the expenditure based poverty estimates in Meth (2006a), there is no alternative but to treat income estimates as a potentially useful source of information about poverty.

42 Varying adjustments to the migrant remittance figures can be made within any of the specified error ranges.

43 This way of treating under-reporting error differs from the approach I used in Meth (2006a). There, what I called the 'nominal' under-reporting error applied to all of household expenditure. The percentage errors involved were consequently much smaller, for example, it required an error of only about 40 per cent to get the number of poor down from about 18-20 million to the van der Berg *et al* figure of 15.4 million (Meth, 2006a, p.51). In the present paper, it requires an upward adjustment of 200 per cent to the income figures from the September 2004 LFS to produce the same result.

44 Making 'corrections' of differing magnitudes presents no problems; the difficulty lies in knowing what the relative sizes of the corrections should be.

45 This is apparently caused by an oddity in the way that migrants are numbered in the survey. The means devised to get around this may be seen in the STATA Do File 'crinc.do', which will be made available for inspection on request. In brief, a new variable was created for migrants who reported sending income home.

46 Whether or not this poverty line is defensible, is not at issue here. Its continued use is justified only on the grounds that it facilitates the conversation begun by van der Berg *et al*. The weaknesses of a study that concentrates solely on income poverty are also wholeheartedly acknowledged. The fact that the results in the present paper are a response to income poverty estimates produced by van der Berg and his co-workers, is, however, sufficient justification for producing more of the same.

47 Compensation of residents equals R677 billion, net operating surplus, R454 billion and corporate savings R35 billion. See *South African Reserve Bank Quarterly Bulletin* June 2006, pp.S-132-133. One assumes that the changeover to the 1993 SNA did not cause the definition of net operating surplus to differ too much from the old definition of 'Income from property' as '… dividend receipts; interest receipts less interest payments; rent receipt less maintance (*sic*) cost, mortgage interest and consumption of fixed capital; and profits of non-corporate business enterprises after consumption of fixed capital and after inventory valuation adjustment.' (See *South African Statistics 2001*, p.19.13)

48 The proportion of pensions going into zero-income households (about 65 per cent) is even larger than the proportion of child support grants (45 per cent) also finding their way into such households.

49 When this is not done, there is an apparent diminution in the effectiveness of the grant system as the assumed level of under-reporting, and the correction applied to income from employment to compensate for this, rises. Both the GHS and the LFS figures return this pattern of results. This appears to be caused by the distributions of income that the surveys uncover, and the way in which they change as the value of income from employment increases. For (some of) those households containing workers, the effect of increasing the correction for assumed under-reporting is to lift the households above the poverty line, thereby reducing the amount of poverty alleviation 'work' that has to be done by social grants.

50 The first LFS was conducted in February 2000, the last October Household Survey having been carried out in 1999.

51 Where expenditure fails us, it has at least been possible to use race as a proxy (albeit a very crude one) to permit an educated guess to be made of the likelihood of particular workers being poor.

52 The 'missings', 'don't knows' and 'refuses' among respondents in the September 2001 LFS are similar in proportion and number to those in the September 2004 LFS. In 2001, there were 26 532 employed respondents. Of them, 18 920 (71.3 per cent) gave point estimates of income, while 5997 (22.6 per cent) gave category estimates. Missings, don't knows and refuses numbered 1618 (6.1 per cent of the employed). After imputation using data on expenditure, this was reduced to 637 cases (2.4 per cent of the employed). Source: own calculations using September 2001 LFS data set.

53 In the absence of the increases in the numbers of social grants, poverty would obviously have been much worse in 2004. Applying the 2001 headcount ratios to the 2004 population suggests that there would have been somewhere between 1.8-2.2 million more poor people in 2004 than are reported in Table 8.

54 See Statistics South Africa's *Stats in brief 2005*, Table 2.5, p.11.

55 In South Africa's case, the target year is 2014, the 20th anniversary of the commencement of democratic rule, rather than by 2015. It is not known what base year the South African government has in mind. The United Nations uses 1995. Because of the fragmented nature of South African statistics, poverty levels in 1994 or 1995 are the subject of some disagreement.

56 Recall that President Mbeki used the figures to reassure Prince N E Zulu, during question time in Parliament on March 30th this year, that government was on course to halve the poverty rate by 2015, while Joel Netshitenzhe uses them to make the same claim in his critique of Pilger (*Sunday Independent*, August 20 2006).

57 Poverty gaps in Table 8 are larger than those in Table 6 because the former do not take migrant remittances into account.

58 A starting point for the investigation could be with the fact that the total numbers of households in the two surveys differ by a larger than expected amount.

59 In July 2000, the old age pension and the disability grant were worth R540 per month, and the child support grant, R100. By April 2004, these had risen to R740 and R170 respectively (National Treasury 2004, p.74). Deflating these to 2000 prices by the Consumer Price Index yields values of R598 and R137. Growth in the real values of these grants (10.7 and 37.3 per cent respectively), is quite impressive. It came, however, after years of stagnation or falling real values. In the case of the old age pension, the real value fell continuously from R614 per month in July 1995 to R555 in October 2002 (in constant 2000 prices).

60 The real value of old age pensions, disability grants and care dependency grants fell slightly, while the real value of child support grants rose a little (by about 3.5 per cent).

61 Social grant 'packages' for 2001 are constructed using different assumptions from those used to make up the 2004 'packages'. Package No. 1 in 2001 applies the ratios of numbers beneficiaries per household from the 2004 GHS to the numbers of households in 2001 that report

receipt of an old age pension or disability grant. Package 2 in 2001 applies the ratios of the SocPen (the Department of Social Development's administrative data base) to survey estimates of the numbers of old age pensions, disability grants and child support grants. Package 3 is similar to Package 2, except that it halves disability grants to allow for special needs of the disabled.

62 Clearly, the distribution of that growth is one of the critical determinants of the extent of poverty reduction. If income growth comes off a low income base, the effects on the poverty headcount will be minor, even if growth is relatively rapid. Poverty gap ratios should fall, but the poor will be as numerous as ever.

63 Income categories in 2004 are multiples of R309, the 2004 equivalent of R250 in 2000 prices. The corresponding figure for 2001 is R264.

64 In 2004, for a 100 per cent under-reporting error, the estimated means in the income categories R3090-4999, R5000-9999, and R10 000 plus per month were, respectively R3936, R6885 and R27 225. Corresponding figures in 2001 were R3729, R6880 and R23 776. Source: own calculations using September 2001 and September 2004 LFSs.

65 There may well be other accounts of what happened during the period.

66 Statistics South Africa commented in the February 2002 LFS (SR P0210, 25 September 2002, p.i) that longitudinal analysis of the first three rounds of the survey was underway. The results, to the best of my knowledge, have not been published. By the time the September 2002 LFS was published, it had been decided that 'All the labour force survey results, at this stage, are based on a cross-sectional analysis, since there are insufficient collections over time for a longitudinal analysis.' (SR P0210, 25 March 2003, p.i). In March 2004, it was announced that cross-sectional analysis was still the order of the day because 'the matching process was still underway' (SR P0210, 28 September 2004, p.i). Other than a reference to the fact that rotating panel surveys allow both cross-sectional and longitudinal analysis, the 'new look' LFS of September 2004 offers no hint of progress (SR P0210, 31 March 2005, p.xix). A similar note appears in the March 2005 LFS (SR P0210, 28 July 2005, p.xx), and in the September 2005 LFS (SR P0210, 24 January 2006, p.xxii). Incidentally, the fourth round of the LFS, conducted in

September 2001, saw a new sample being drawn to replace the original sample, the members of which were suffering respondent fatigue (SR P.0210, 23 September 2003, p.i). There is no reference in any of the LFSs to the frame from which this sample, all of whose original members would long since have been 'rotated' out (20 per cent exit with each round), being changed.

67 A third round of the KwaZulu-Natal Income Dynamics Study (KIDS), has been completed. This discloses some mobility upwards out of poverty. It also shows some increase in incomes. The proportion of the sample that is chronically poor (below the poverty line in all three rounds of the KIDS) is roughly constant. *pers comm*., Julian May, August 2006. It is a pity that the study is restricted to the province of KwaZulu-Natal, which although large, diverse and populous, cannot necessarily be assumed to be representative of the country as whole.

68 This is the equivalent, in 2004 prices, it may be recalled, of the R250 per month per capita used by van der Berg *et al* (2005).

69 A poverty gap ratio for 2001 that is comparable to the 2004 ratio taking into account income from all sources, cannot be estimated because there are no estimates of migrant incomes in 2001. See Table 8 for 2001 and 2004 poverty gap ratio estimates that can be compared.

70 The latest offering in the social wage field is from Bhorat, Naidoo and van der Westhuizen (2006), who use factor analysis to estimate changes in asset poverty. For all its apparent sophistication, the approach is not able to say anything about the impact of increased service provision on incomes. A report on the social wage, commissioned by government (HSRC, 2004), provides some interesting insights, but does not solve the valuation problem satisfactorily. In a highly tentative analysis, I have also attempted to estimate the impact of the social wage on poverty. An early and extremely crude attempt was made in Meth and Dias, 2004. A slightly more refined version of this approach was used to derive the results in Meth, 2005, building on the concept of the 'bankability' of the social wage. There is, however, still a long way to go. Government's attempts to value the impact of the social wage are risible. The results published in the *Ten Year Review* of the estimates of the impact of social spending on the Gini coefficient between 1997 and 2000 (PCAS, 2003, pp.90ff) have already been referred to above.

71 Income may be a poor proxy for consumption levels, which themselves, are a far-from-perfect proxy measure for welfare. Until something better is devised, the level of income required to enjoy the consumption deemed to be socially necessary to avoid slipping into poverty (below the poverty line), will have to suffice as a measure of income poverty. No claim is made here that the R250 per capita per month used by van der Berg and his colleagues is adequate.

72 According to Michael Noble, about 20 per of respondents do this. *pers. comm*., August 2006.

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